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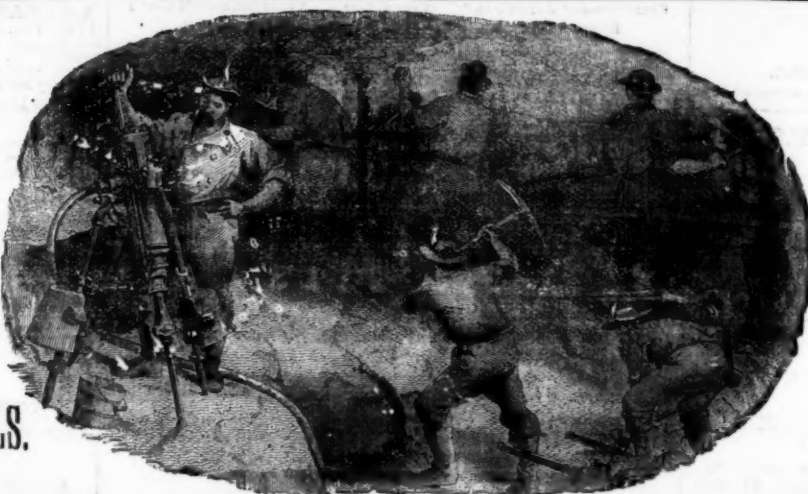
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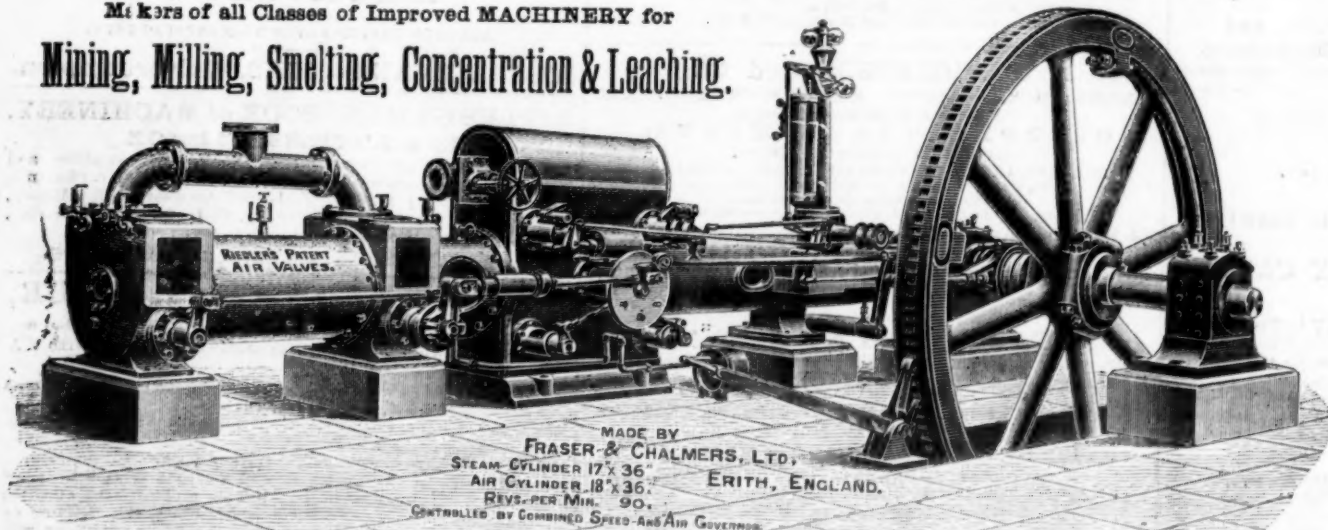
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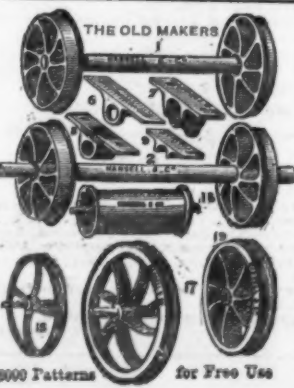
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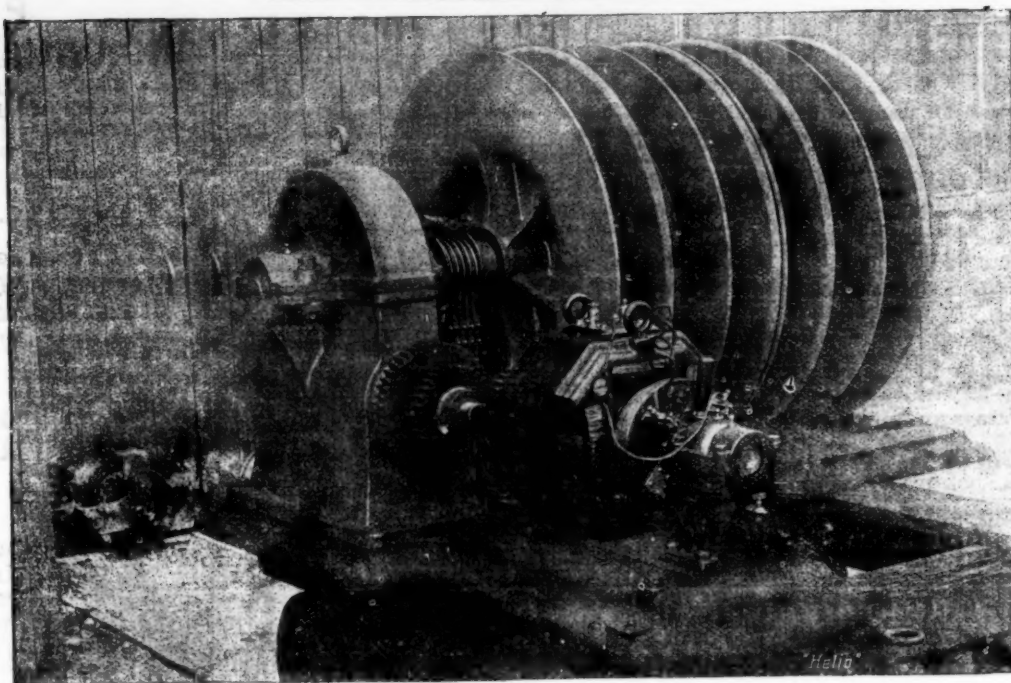
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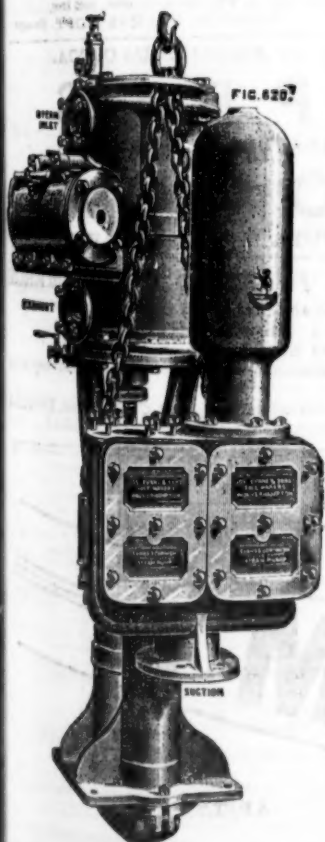
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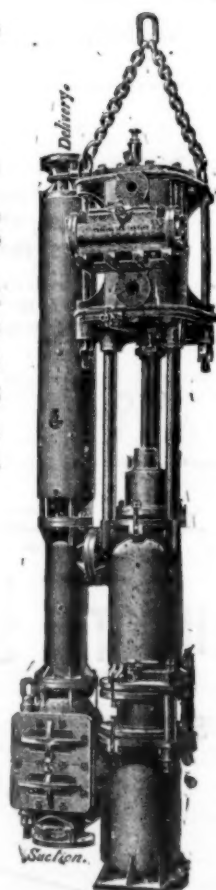
GRIFF PATTERN
"CORNISH"
SINKING PUMP.



FIG. 875, "FLUOMETER"
PATENT STEAM VACUUM
PUMP.

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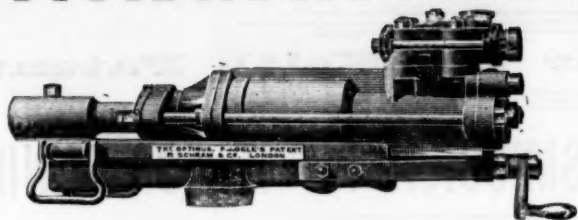
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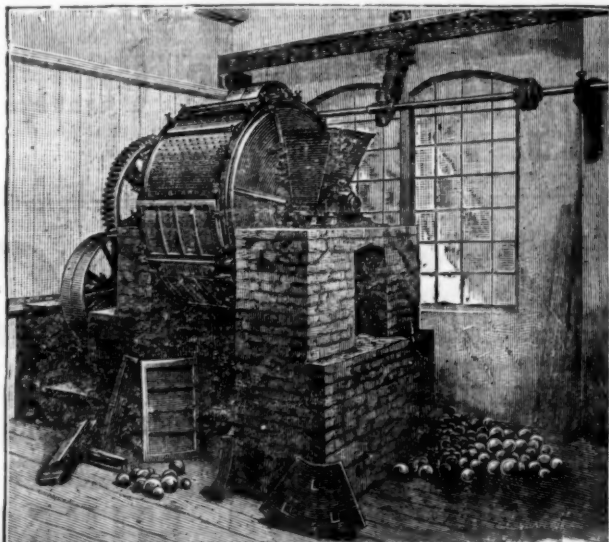
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GOLD EXTRACTION MACHINERY.

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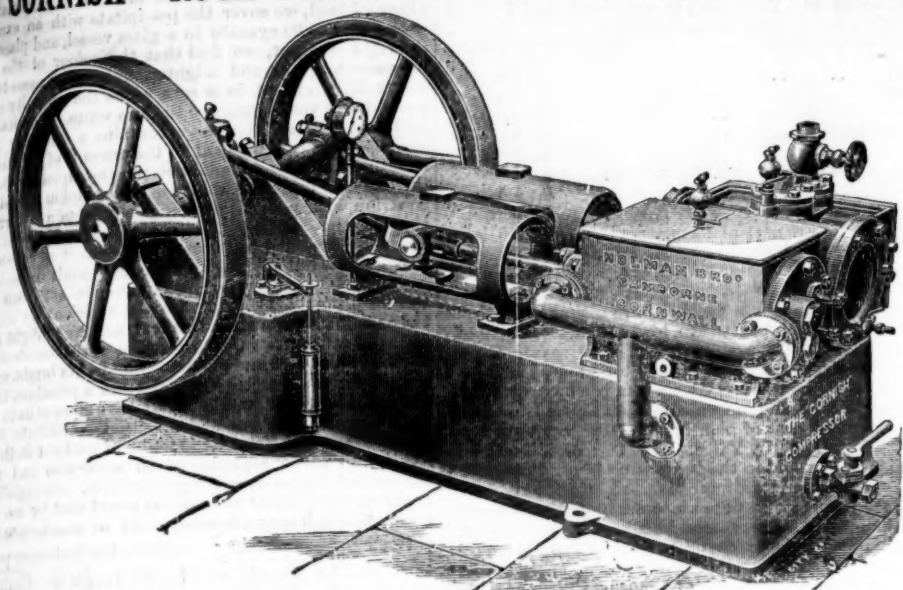
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HOLMAN Bros., Camborne, Cornwall.

ESTABLISHED 1839.

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RECORD OF WORK DONE

At Botallack Mine, St. Just, Cornwall, **TWELVE MEN** with **TWO** new Patent **CORNISH ROCK DRILLS** sunk, and rose **288 FATHOMS** in **12 MONTHS**, equal to five times the Speed of Hand Labour.
At Wheal Grenville Mine, Camborne, Cornwall, **SIX MEN** with **TWO** new Patent **CORNISH ROCK DRILLS** started from the **150 FATHOMS** level and put up in **EIGHT MONTHS** a **11 FEET** by **5 FEET PERPENDICULAR RISE 46 FATHOMS 5 FEET 6 INCHES**, and about midway drove **1 FATHOM 5 FT.** No communication of any kind was effected until holing to the Shaft brought down from surface.

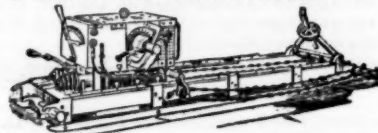
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OVER 600 IN DAILY USE.

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BLASTING APPARATUS.
HIGH OR LOW TENSION
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SEC. B. ELECTRICAL PLANT AND STORES.

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AWARDS: CRYSTAL PALACE, 1890; TASMANIA, 1891; KIMBERLEY, 1892.

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The Clarkson-Stanfield Ore Reduction Co. (Limited).

In the CLARKSON-STANFIELD process of Concentrating Refractory and Complex Ores no water is required; dust is reduced to a minimum; the loss of Mineral through water-borne Slimes is obviated.

OUTPUT $\frac{1}{2}$ TO 2 TONS PER HOUR, ACCORDING TO SIZE OF MACHINE.

CONCENTRATOR TO BE SEEN IN OPERATION AT THE COMPANY'S ONLY ADDRESS,

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The Machine is superior to Sieves for Sizing Homogeneous Substances, such as Emery, Sand, and Powders, and may be used to great advantage in the preparation of Ochre.

RE-The owners of the Carndochan Mine, near Bala, North Wales, will, by arrangement, show their CLARKSON-STANFIELD plant working on a Refractory Low Grade Gold Ore.

NEW PATENTS.

LIST of APPLICATIONS for New Patents relating to Mining Metallurgical, Engineering, Railway and kindred matters, specially compiled from official sources for the "Mining Journal" by Messrs Rayner and Company, Patent Agents, 31, Chancery Lane, London, W.C., who will forward all information regarding them free on application.

- 1896 Charles Hanning, Ashford, Melton-Mowbray.—An improvement in the charging apparatus of blast furnace.
- 1896 Arthur Moore Phipps, 18, Buckingham Street, Strand, London.—A new or improved oil injector for steam boilers.
- 1896 Marion Chappell, 35, Weymouth Street, Portland Place, London.—Pneumometer.
- 1896 Heinrich Göhrig, 115, Cannon Street, London.—An improved super-heater for water tube or tubular steam boilers.
- 1896 Arthur John Bayley, 77, Chancery Lane, London.—Improvements in the construction of steam traps.
- 1896 Patrick Browne, 77, Chancery Lane, London.—Improvements in and relating to steam injectors for supplying water to steam boilers and the like.
- 1896 William Henry Coward, 51, Chancery Lane, London.—Improvements in mills for crushing or pulverizing.
- 1896 David Ambledon, Sunbridge Chambers, Bradford.—Improvements in pneumatic stamps for crushing ores.
- 1896 Bradley Woodthorpe, 19, Chancery Lane, London.—Improvements in fire bricks and grates for furnace stoves and the like.
- 1896 James Bell, 25, Walbrook, London.—Improvements and rocking and dumping furnace grates.

SPECIFICATIONS PUBLISHED.

- 21 Patent.—Treatment of metals and products resulting therefrom.
- 21 Referred.—Steam generators.
- 21 Kröner.—Belt-metallic packing for the stuffing boxes of steam engines and for other purposes.

The PRODUCTION OF PIG IRON.—It appears from the statistics issued by the South-Western Branch of the German Iron and Steel Association that the output of pig iron in the Saar and Moselle districts amounted during October to 103,039 tons, against 100,950 tons in September last, and 93,419 tons in October, 1895. The October output was made up of 23,443 tons of large pig, 70,112 tons of Thomas pig, and 9,484 tons of Bessemer pig. During the first 10 months of this year the production of the district amounted to 1,019,936 tons, against 934,960 tons during the same period last year.

RECENT COAL AND IRON COMPANY (LIMITED).—The coal sales for the month of October last were 974 tons.

JOINT-STOCK COMPANIES.

NEW REGISTRATIONS.

THE following are among the joint-stock companies registered at Somerset House since our last notice:—

- Ore At-omic Reduction and Gold Extraction Company (Limited).—Registered November 17 by Marriott and Underwood, Old Jersey Chambers, E.C. (capital £25,000, in £1 shares, of which 250,000 are ordinary shares, and 10,000 founders' shares). To purchase or otherwise acquire any patents, secret processes, "brevets d'invention," licences, concessions, and the like, conferring any exclusive or non-exclusive or limited right to use any invention or inventions, English or foreign, and in particular in respect of processes for the disintegration of gold and other metalliferous quartz, and the extraction of mineral therefrom, and to work, develop, exercise, and promote the use of the same; to purchase or otherwise acquire any contracts or concessions relating to commercial or industrial undertaking, mines, or mining leases; to purchase and deal in freehold and leasehold lands and mortgages. Registered office, 83, Cannon Street, E.C.
- Electrolytic Plating Apparatus Company (Limited).—Registered November 16 by Waterlow and Sons (Limited), London Wall, E.C. (capital £50,000 in £1 shares), to acquire by purchase or otherwise any patents, inventions, secrets or other information as to any invention relating to the electrical deposition of metals, or generally any invention which may seem to the company capable of being profitably dealt with. Registered office, St. Paul's Chamber, The Bridge, Walsall, Staffordshire.
- Welsh Brick, Slate, and Lime Company (Limited).—Registered November 10. Capital £10,000, in £5 shares. Objects: To acquire and carry on the business of brick, slate, and lime merchants, carried on by a company of the same name at Cardiff Yard, Cardiff.
- Pittsburg Reduction Syndicate (Limited).—Registered November 15. Capital £5,000, in £1 shares. Objects: To carry on the general business of metal foundries, copper and silversmiths, metal brokers, &c.
- Gilgwyn Slate Company (Limited).—Registered November 15. Capital £40,000 in £1 shares. Objects: To acquire and carry on the business of quarry masters, slate manufacturers and merchants, carried on at Gilgwyn Slate Quarries, in the county of Carnarvon, as "The Gilgwyn Slate Company," and to enter into a certain agreement.
- Officina Gold Syndicate (Limited).—Registered November 15. Capital £15,000, in £1 shares. Objects: To enter into an agreement with G. M. and sons, and to prospect, examine, explore, develop, and turn to account any mines and ground supposed to contain minerals or precious stones.
- Blackton Main Colliery and Brickworks, Barnsley (Limited).—Registered November 15. Capital £500, in £1 shares. Objects: To acquire the business carried on by G. J. Eaton as George J. Eaton and Son, at Summer Lane, Barnsley, and to carry on the business of colliery owners, coal merchants, and brick manufacturers, &c.
- Dominion Mining Development and Agency Company (Limited).—Registered November 17. Capital £1, in £1 shares. Objects: As fully indicated by the title.

THE CAPE COPPER COMPANY (LIMITED) has declared a dividend of 3s. per share on the cumulative preference and ordinary shares, free of income tax, payable on January 1. The transfer books will be closed on December 4.

CONTRACTS OPEN:

FOR MINE, QUARRY, RAILWAY, AND ENGINEERING WORK, STORES, &c.

* * We shall be obliged by being promptly placed in possession of particulars regarding contracts open for competition, and of the results of successful tenders. In the latter case contract prices should be given.

The date given is that by which tenders must be delivered, in nearly all cases further information can be obtained on application at the addresses given. In applying for such the name of "The Mining Journal" should be mentioned as the original source of the information, concerning which further particulars are required.

Wheels and Axles, December 7 (London, E.C.).—For the supply of 2412 pairs of wheels and axles, for the Bengal and North-Western Railway Company (Limited). Specification, with form of tender and company's general conditions of contract, may be obtained from the company's offices on payment of a fee of 15s., no part of which will in any case be returned.

Sleepers, December 8 (India Office, S.W.).—The Secretary of State for India in Council is prepared to receive tenders to supply cast iron sleepers. The conditions of contract may be obtained on application to the Director-General of Stores, India Office, Whitehall, S.W., and tenders are to be delivered at that office by 2 p.m. on December 8.

Coal, December 8 (Tullamore, Ireland).—For the supply of 51 tons best Whitehaven coal for the guardians. Security required. Sealed tenders will be received up to 12 noon on 8th inst. Mr. James M. Kenna, clerk.

Coal, December 10 (Newry, Ireland).—For supply of 50 tons of best screened Whitehaven coal, delivered at the workhouse for the guardians. All further information can be learned from the master. Sealed tenders, naming surties, to be lodged with Mr. J. Houston Sheehan, clerk, by 12 noon on 10th inst.

Stores, December 14 (South Hetton, Durham).—For next year's supply of iron castings, wire ropes, oils, and other colliery stores, except timber, for the South Hetton Coal Company (Limited). Forms of tender and specification, with full conditions, may be obtained from Mr. J. R. Lambert, South Hetton, Sunderland, and applicants for forms must state the kind of stores for which they wish to tender. Tenders, addressed to the South Hetton Coal Company (Limited), South Hetton, Sunderland, will be received up to December 14.

Stores, December 14 (Trindon Grange, Durham).—The owners of East Hetton, Trindon, and Trindon Grange Collieries invite tenders for 12 months' supply of deals, battens, &c., iron, steel, castings, gas and steam tubing, hardware, nails, wire and hemp ropes, brattices cloth and kersey, Indian rubber, packing, tallow, grease, oils, wicks, waste, &c., powder, and fireclay goods.

Stones, December 15 (Newcastle-on-Tyne).—For supplying, breaking, and carting stone for the maintenance of main roads during the year on 1st March 1897, for the Northumberland County Council. For bills of quantities, forms of tender, and other information apply to the County Surveyor, Moot Hall Newcastle. Tenders to be sent in by 15th inst.

Iron, December 15 (London).—For supply of assorted iron and sheets, also envelopes and paper, for the Royal Portuguese Railway Company. The address is Santa Apollonia Station, Lisbon, and particulars are also obtainable at the P. O. office, Rue de Châteaudun 23.

Coal (tender).—For the supply of slack and coal for their works during year 1897, for the Hydraulic Engineering Company (Limited). Further particulars as to quantity, &c., can be obtained on application at the works.

THE CYANIDE PROCESS.

ZINC v. ELECTROLYTIC PRECIPITATION.

(From the South African Mining Journal.)

THE following is the continuation of the report of the proceedings at the meeting of the Chemical and Metallurgical Society, held on October 17:—

The President invited discussion on Mr. Yates' paper, read at the previous meeting, on "Zinc versus Electrolytic Precipitation."

Mr. VON GERNET read a criticism as follows:—Mr. President and Gentlemen—Mr. Yates' paper, giving a comparison of the relative merits of zinc and electricity as agents for the precipitation of gold from cyanide solutions, affords me an opportunity of replying thereto, and I shall endeavour to prove that his premises, as set forth, are false; consequently his conclusions must be erroneous, and, as his conclusions are the basis for the theories advanced, I shall endeavour to place before you some of the more salient points that you may judge how misleading his deductions have been. In criticising Mr. Yates' paper, I wish to give zinc as a precipitant such credit or advantages as it may be entitled to—that is to say, when the cyanide process was first introduced and was worked by more or less inexperienced men, the simplicity attending the use of zinc was of great value; but that day has passed—the world has gone on apace, and experienced men are now to be had on every hand. In dealing with the subject I shall avoid minor details and plunge directly into the gist of the matter—namely, the relative strengths of solution and cyanide consumption in the two methods. In the majority of the Rand ores the strength of the solution employed has but little influence upon the percentage of extraction. The same percentage of gold would be recovered in but little more time with a '05 per cent. solution as with a '30 per cent. solution, consequently about the same leaching capacity is required with either. Mr. Yates states "weak solutions do not in practice always show a solving efficiency equal to stronger ones." Always is right, but in general, I think it is admitted that the solution of the gold depends much more upon mechanical conditions than upon the strength of the solution, even '05 per cent. cyanide solution, in contact with an equal weight of 5 dwts. tailings, contains more than 88 times the amount of cyanide of potassium required. Should, under exceptional circumstances, gold take an extremely long time to dissolve in very weak solutions, a stronger solution would be employed. In the electrical process, the reason for using any excess of cyanide is simply to ensure the presence of free cyanide in solution above that consumed by the cyaniders in the ore. Not so, however, in the zinc process—for there that uneconomical strength '30 per cent. is employed, not because it is required for the solution of the gold, but for the reason that should less solid cyanide be used daily in the strong solution, the strength of the stock of weak solution in the works would reach a point at which zinc precipitation fails to act. The statement advanced by Mr. Yates that, "if solutions of this strength are best adapted to Rand ores, then the scope of electrical precipitation is indeed limited, for not even its stoutest supporter would care to advocate its general use in connection with such solution." I must say I utterly fail to grasp the relevancy of this conclusion. The Rand cyanide managers use '30 strength or thereabouts, simply because if they did not, they might dissolve out the gold from the tailings, but the zinc would fail to precipitate it from the solution; in other words, with the zinc process the strength of the solution must be adapted to the precipitating agent, whereas, on the contrary, the electrical process does not depend or rely upon chemical reaction in order to get correct precipitation, and consequently any strength of solution may be employed suitable to the ore treated. The amount of cyanide consumed depends mainly:—

1. Upon decomposition during leachings of tailings, due to the chemical composition of the latter—this increases with the strength of the solution, since more base metal is dissolved by the stronger solution, and consequently more cyanide consumed.

2. Upon decomposition during precipitation. This, with electrical precipitation, is equally small for strong and weak solutions, but with the zinc process increases with the strength of the solution used.

3. Upon cyanide solution lost by leakage, also as moisture in the residues. It is obvious, then, other things being equal, that in '30 per cent. solution a larger amount of actual cyanide of potassium has gone to waste than in a '05 per cent. solution.

Electric precipitation is not, of course, confined to weak solutions only, but may be used with equal effect on solutions of any strength.

Clean Up.

Mr. Yates has laid great stress upon the dependency of Siemens and Halske plants on a customs plant for the consumption of their clean up, but states that "at the majority of the mines where zinc is in use the appliances and arrangements for the clean up are of the most crude description." The crudeness spoken of as existing in the majority of mines where the zinc process is used is one of the prominent faults in the process, inasmuch as the utmost care must be exercised in the clean up to avoid large losses, and we have no means to-day to ascertain what the losses are, or where they have occurred. The natural deduction is that such method is not as advantageous to the mines as one where a simple process and skilled labour is employed, and all the most modern appliances used—as is done in customs works. The result of working the gold slimes at any one individual mine gives that mine simply gold bullion, which is a marketable product; another mine which employs the electric process simply melts down its "strips" into lead bullion, and has also a marketable product which can be taken to the customs works, and refined or sold on smelted sample, if desired, and returns made within 48 hours. The following table, given by Mr. Claude Vautin at a recent meeting of the London Institute, shows the difference in the real market value of good and base bullion:—

	Fineness per 1000.	Value realised per ounce fine gold.
1. Ordinary Cape gold	850	84 5
2. Cyanide gold	800	84 2
3. Do.	700	83 11
4. Do.	600	83 8
5. Do.	500	83 3
6. Do.	400	83 1
7. Do.	300	82 0

Consequently, taking zinc cyanide bullion as averaging 70 per cent. fine gold, and Siemens and Halske cupelled bullion as averaging 80 per cent. fine gold, each ounce of fine gold in the latter case is worth 6d. per ounce more than in the former.

Costs.

Any comparison of costs between such plants as the Worcester, Goldenhuis Deep, Goldenhuis Estate, Robinson, and City and Suburban Companies is altogether abortive and misleading. Figures two years old, as were taken in the Worcester

costs, as against figures two months old as were taken in Goldenhuis Estate costs, cannot be taken as representing the present situation even if other circumstances were equal and could be compared, and some determination arrived at by such comparison. It is impossible to compare plants varying in size, location, nature of tailings, and facilities for working. Under such circumstances, even if the same process were used, the costs would vary according to the local conditions of each plant. The correct comparison is in taking two plants working under similar conditions, only one using the electric and the other the zinc process, which Mr. Yates does in conclusion, and I accept his figures with a few alterations, as follows:—

	500 tons per day plant.	Electric precipitation.
Filling	0 10
Cyanide	0 3 4
Lime	0 0 5
White labour	0 5
Native labour	0 1 9
Fuel and power	0 4
Lead	0 1 5
Iron	0 0 3
Charges due extra cost plant	0 0 5
Stores and general charges	0 3 2
		2 6 3

It will be noted that the costs in the above estimate for iron, alkali, and extra cost of plant are lower than those given in Mr. Yates' estimates. The saving in iron is by reason of employing a smaller sized box. For a 7000 ton plant, four boxes 4½ by 3 by 30 feet, containing 3 tons iron per box, would be used. Very little lime and no caustic soda is used for fresh tailings, and the extra cost of plant amounts to less than one-half the figure stated by Mr. Yates. The loss of interest due to the retention of the gold in the boxes is no larger than in the zinc process, and the gold still unconverted into a marketable product cannot in any case be taken into account in an estimate of actual working costs. There must be added, however, to the MacArthur-Forrest working costs, 6d. per ounce fine gold, equal to 1d. per ton, for refining zinc cyanide bullion; with these corrections, then, the cost of working tailings by the MacArthur-Forrest process is 2s. 11d. per ton, and by Siemens and Halske process 2s. 6d. per ton, or a net saving of 5d. per ton in favour of the Siemens and Halske process.

(To be continued.)

NOTES ON THE ESTIMATION OF SULPHIDES AND CYANATES IN COMMERCIAL CYANIDE.*

WITH the rapid increase in the demand in connection with gold extraction for cyanogen compounds—chiefly potassium cyanide of greater or less purity—and the keen competition existing among the vendors of the commercial cyanide, a desire has sprung up among the consumers to know whether they are obtaining the best article for their money among the many sellers to be able to point to the fact that in some particular their manufacture is superior to all others. Where, a very few years ago, a determination of cyanogen contents expressed in terms of potassium cyanide, was considered a sufficient criterion of the value of commercial cyanide, both buyers and dealers wish nowadays to obtain a little more information about the article they are using or dealing in, as the case may be; and it now, with some frequency, falls to the analyst to be called upon to make a complete analysis of commercial cyanide. The methods to be adopted for such complete analysis will be reserved for some future paper, but in this article we propose to deal with what are ordinarily two of the most troublesome estimations in the analysis of cyanide, but which we have succeeded in simplifying considerably. We refer to the estimation of sulphides and cyanates. We shall, with your permission, describe a rapid and accurate method for the estimation of sulphides, and shall, in the second part of our paper, which we hope to submit to you at the next monthly meeting, describe a volumetric method for the estimation of cyanates.

Alkaline Sulphides.

Some months ago the question of the deleterious action of sulphides in cyanide was ventilated with such effect as almost to cause a panic among cyanide works managers. It having been announced at one of our meetings that the presence of even a comparatively small quantity of alkaline sulphides might retard the solvent action of the cyanide to an appreciable extent, the impression seemed to get abroad that even a trace of sulphides in commercial cyanide would be fatal to its effectiveness as a gold solvent. Now, in our opinion, this "scare" was considerably overdone. We do not think that in any case was there any cyanide sold on these fields containing sufficient sulphides to very seriously affect its gold extracting capabilities. Probably no parcel ever used contained over 0.3 per cent. of potassium sulphide, and in a solution containing 0.3 per cent. of the potassium cyanide the potassium sulphide would only amount to 0.0009 per cent. This appears to us such a small quantity as to present no likelihood of interfering with gold extraction, though it might to a slight extent protract the time required to obtain satisfactory extractions. At the same time, we recognise the principle that, as soluble sulphides in the cyanide do retard the solvent action of the latter, it follows that, all other things being equal, the cyanide which contains the least quantity of alkaline sulphides is the best cyanide.

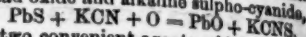
Before proceeding to a description of the method of estimation proposed by us, it may not be out of place to mention that as long ago as June or July, 1893, Messrs. Mackinnon and Ellis, recognising the possibly deleterious influence of sulphides in cyanide solutions, applied for a patent for addition of lead salts to working solutions in order to precipitate the sulphur of the alkaline sulphides in the form of lead sulphides. They appear to have had in mind at that time the alkaline sulphides which would be formed by the action of cyanide on arsenical and other sulphides in the ore under treatment rather than any sulphides incidental to an inferior quality of cyanide. Owing to some blunders in the Dutch translation of their specification, they caused their application to be withdrawn at the last moment, but the modified process described by them has since been used, with it, is said, beneficial results in more than one cyanide works on these fields.

Estimation of Sulphides.

The method hitherto in use has been a gravimetric one, consisting of precipitation of the sulphur with excess of carbonate of lead, filtering off the mixture of carbonate and sulphide of lead, oxidising this precipitate by means of chlorine or bromine in presence of excess of alkaline hydrate, and, after filtering and acidifying the solution and boiling off the excess chlorine or bromine, precipitating the sulphuric acid with basic chloride in the usual manner. Although giving accurate results, this method is painfully slow and laborious.

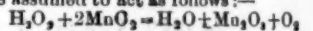
* A Paper by Messrs. Feldmann and Bittel, read at the last meeting of the Chemical and Metallurgical Society of South Africa.

We have experimented with a view to discovering a method of converting the sulphur in freshly precipitated lead sulphide into an alkaline sulpho-cyanide, and have been entirely successful. We find that lead sulphide in contact with a solution of an alkaline cyanide will, under certain conditions, become oxidised to lead oxide and alkaline sulpho-cyanide, because

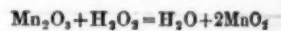


We know of two convenient agents which lend themselves to this conversion. If, after precipitating the sulphur with lead carbonate and filtering of the mixture of carbonate and sulphide of lead, we cover the precipitate with an excess of pure in bright sunlight, we find that the colour of the precipitate becomes brighter and brighter, until after some two or three hours it is, except in a case where the quantity of sulphide present was very large, almost pure white. Simultaneously, we find that the solution now contains a quantity of alkaline sulpho-cyanide equivalent to the amount of sulphur originally contained in the lead sulphide, and consequently that by filtering and acidifying the solution with sulphuric acid we can, by titration with potassium permanganate, obtain a correct indication of the amount of sulphides originally present in the sample. The lead salts remaining consist of carbonate, oxide, and a small but varying quantity of cyanide of lead. In cases where the quantity of lead sulphide acted upon is large, the resultant lead oxide may be sufficient to slightly tinge the carbonate yellow. In this instance the sunlight has accelerated the otherwise very slow action of the dissolved oxygen on the lead sulphides and alkaline cyanide. As bright sunlight is in some countries—such as England—at a premium, this method, though interesting, would hardly have allowed us to claim for it a universal application, and a suitable substitute for sunlight had to be sought for. The function of sunlight in this direction was found to be replaced in an admirable and remarkably accelerated degree by hydrogen peroxide. So rapidly does this re-agent bring about the desired result that by use of a dilute solution, which may advantageously be standardised against a potassium permanganate solution, the hydrogen peroxide can with care be directly used for determination of sulphur in the lead sulphide. For this purpose it is added drop by drop to the mixture of potassium cyanide and lead sulphide until the latter completely loses its dark colour. The conversion not being instantaneous, a few seconds must be allowed to elapse after each addition of hydrogen peroxide. It should be noted that, if there has been a large quantity of sulphide, the precipitate will not turn pure white, but will reach a point at which a further addition of hydrogen peroxide will cause no further difference in the shade. This is due to the formation of a certain amount of lead sesquioxide, or possibly peroxide. Rather than titrate direct with hydrogen peroxide, we prefer to add this in slight excess, and destroy the excess either by chemical means or by what is popularly termed catalysis, and, after filtering and acidifying the solution, to titrate the sulpho-cyanide.

The destruction of the hydrogen peroxide can be rapidly effected by addition of a small quantity of manganese peroxide, which may be assumed to act as follows:—

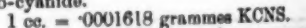


and



Briefly described, our method is the following:—From 5 to 10 or more grammes of the commercial cyanide are dissolved in water, and the insoluble matter, if any, filtered off. The solution is agitated with a small quantity of precipitated lead carbonate—of course, slightly in excess, and filtered. The precipitate, consisting of lead carbonate and sulphide, is transferred to a flask, and covered with a few cc's of a solution of potassium or sodium cyanide free from sulphides, sulpho-cyanides, or ferro-cyanides. We generally prepare this solution from pure potassium or sodium hydrate and a solution of pure distilled hydro-cyanic acid. To the mixture in the beaker we then add hydrogen peroxide in slight excess—i.e., in such quantity that the addition of a few drops more causes no further decoloration. (The hydrogen peroxide for this purpose should be purified by agitation with ether and evaporation of the ether in a water bath.) A small quantity—say 1 gramme—of manganese peroxide is then added, and the mixture agitated for about two minutes, after which the solution is filtered off, acidified with sulphuric acid, and titrated with $\frac{N}{100}$ potassium permanganate.

One cc. of $\frac{N}{100}$ potassium permanganate equals 0.000182 grammes sulphur, or 0.000182 grammes potassium sulphide. The potassium permanganate may be standardised by means of pure potassium sulpho-cyanide.



We propose in the second part of our paper to submit examples of estimations of both sulphides and cyanates.

ANTIMONY MINING.—The antimony mines of the Cape Colony are says British Consul Drummond (Ajaccio), the only mines at work. They are the Luri Mine, owned in England, and the Maria and Uria mines, owned locally. They produce between two and three average per annum during the last five years of 1300 tons of ore containing 45 per cent. of metal, and 300 tons of ore containing 30 per cent. of metal. Almost all this goes to London to be smelted, and is used for making star antimony, chiefly used in alloys and type metal. Japan, being a large producer, has been able to undersell Corsican and all European antimony on the low price of silver giving such an enormous advantage on the exchange. The result is a reduction in output, in Europe only the best mines, such as the Corsican, being able to compete with Japan. With silver rising in value somewhat the prices for ores are improving, and at the present moment demand for the Corsican ore exceeds the production. With the advance in value of copper more attention is being paid to the copper lodes which undoubtedly exist, but have been little proved. A local company is now opening up an important deposit of pyrites carrying 6 per cent. of copper and 45 per cent. of sulphur, and will shortly be turning out 500 tons monthly. Another mine which has not been worked for years is about to be offered at public sale by Government, on the advice of the chief engineer of mines that it is too important to remain in the hands of concessionaires who do not work it. The Consul adds that he will be happy to supply full details of these and other mines to any persons applying to him.

The offices of H. Millitz and the London office of the following companies have been removed to 20, Bishopsgate-street Wall, E.C.1:—Australian Alliance Mining and Finance Company (Limited), Hex River Exploration Company (Limited), Klerksdorp Gold Mining Land, and Estate Company (Limited), Lancaster Gold Mining Company (Limited), Molyneux Mines Consolidated (Limited), Meyer and Charlton Gold Mining Company (Limited), Rand Central Estate and Gold Mining Company (Limited), Rand Central Estate Works (Limited), Roodepoort Central Deep (Limited), Union Mines Bultfontein (Limited), Western Molyneux Mines (Limited), York Gold Mining Company (Limited).

THE ISLAND OF SAKHALIN.—In the course of an interesting lecture at the Imperial Institute on Tuesday, Professor Douglas Howard stated that Sakhalin possesses no volcanoes, though there is a long line of active craters in the adjoining Kuriles and the south, through Japan. There is no gold or silver; the iron is inferior, and the coal, which is all worked on the surface, is of a friable.

OUTLINES OF THE MEXICAN MINING CODE.

By Captain C. C. LONGRIDGE, M.F.I.M.E., M.I.M.E., &c.

THE Mining Laws of July 1, 1892, effected the repeal of the code of November, 1894, as well as of all circulars and rulings relating thereto, as also of Article 10 of the Law of June 6, 1887. The introduction of this code has very much simplified mining business, and greatly diminished the occasions for misunderstanding and litigation. The following headings comprise the general outlines of the Mexican "Ley Minera":—

Mining Properties.

These are of two kinds. First, such as cannot be exploited without a license or concession—namely, gold, platinum, silver, mercury, iron, ochres used as colouring matter, lead, copper, tin, antimony, nickel, cobalt, manganese, bismuth, and arsenic, as also precious stones, rock salt, and sulphur. Secondly, such as the owner of the ground may freely exploit without a concession—viz., surface deposits, placers, mineral fuels, mineral oils and waters, rocks and materials of the ground, as limestones, clays, gravels, &c.

Ownership and Acquisition Rights.

With exception of these latter minerals to which the owner of the soil has exclusive right, mining properties are distinct from the ownership of the land, and can be acquired and held by any foreigner on the same terms, and subject to the same restrictions with which he may hold other real estate in the Republic. A foreigner, however, cannot acquire property situated within a zone of 60 miles from any frontier line, without special permission from the Central Government.

Prospecting Rights.

Every inhabitant of the Republic, native or foreigner, has free right to explore for minerals on public lands, but to entitle him to prospect on private ground against the owner's will, he must obtain a permit from the local executive authority. The conditions attached to the permit refer chiefly to indemnifying the owner for surface injuries, and to limiting the duration of operations to three months. During this period neither the owner nor any other prospector can claim, or denounce, as it is technically termed, a mine on the site prospected. The prospector loses his right to denounce if he does not exercise the same within the said three months.

Prospecting Works.

Excavations for this purpose must not exceed 10 metres, either in depth or length; but machine borings may be of any depth. As, however, no penalty is attached to the violation of this regulation, it is not likely to interfere with prospecting work.

Method of Denouncing or Claiming a Property.

The mode of so acquiring mines, placers, abandoned metallurgical works, sites for establishing works, water rights, &c., is to apply for an official award in virtue of the denouncement. Properties so acquired can, of course, afterwards be bought or sold. The only grounds on which a mining property can now be claimed appear to be:—First, on account of the discovery of a new mineral district, or of a new deposit in a known district, or of a new mine in a known deposit; secondly, on account of extinction or forfeiture of the previous owner's title by non-payment of the annual tax.

The method of procedure in case of applying for mining concessions is laid down in Title III. of the code. All applications must be accompanied by plans of the claims drawn to appropriate decimal scale.

With private individuals it is optional to register the titles of future concessions, or of existing property, in the Commercial Register; but registration is obligatory on mining partnerships, or on creditors of mines. Mining partnerships are required to have registration made at the seat of the judicial districts or county, both of the location of the mining claims and of the domicile or domiciles the company has in the Republic. The law allows complete liberty as to the number of claims that can be applied for. Further, the miner is not required to begin his work of exploitation within a given time. Application to increase the number of claims is treated as a new concession. The reduction of claims can be effected without the issue of a new title.

Dimension of Claims.

A mining claim is a solid of indefinite depth, limited on the surface by the projection of a horizontal square or rectangle of 100 metres to the side; and, under the surface, by four vertical planes passing through the respective sides. Every claim is indivisible—that is, it cannot be bought, sold, or mortgaged in parts, as, for instance, by the foot along the vein.

The Working of Mines.

Mines are to be worked in accordance with the rules of the code, as to ventilation, width of workings, means of egress, &c. The regulations as to drainage are somewhat complicated. The legal right of drainage obliges a mine owner to indemnify other owners for the damage he may cause by not maintaining adequate underground drainage, and for the same reason obliges all mine-owners to allow free passage through their properties for such adits and drainage works as may be necessary for the above purpose. Owners whose mines are wholly or partially drained by neighbouring mines must contribute to the drainage expenses in proportion to the benefit received. The pay ore found when driving the adit, if met in claims lawfully granted, is the property of the owner of same; but, if found on free ground, it is to be divided among the owners of all the claims benefited by the adit. The parties opening the drainage adit shall be considered as explorers in respect of fresh claims. Only with the unanimous consent, expressed in a public document, of the parties interested in a general drainage adit shall the same be used for transport or other purposes. The legal right of ventilation also entitles a mine owner to open communication with the workings of other mines if the same produces a ventilation that otherwise could not be obtained except at great cost.

Administration of the Code.

Administrative and economic questions, referring to mining matters, such as registration of denouncements, granting of prospecting licenses, giving possession of properties, &c., are subject to the Ministry of Public Works and its functionaries. Mining disputes between individuals are left to the ordinary judges and tribunals in accordance with the provisions of the Commercial Code. Mortgages in mining matters may be freely executed in conformity with the provisions of the Civil Code, but the provisions of the Commercial Code must be observed in regard to registration. The mortgagee has always the right to pay the annual Government tax, and by so doing acquires a preferential right with respect to the ownership of the mine. Documents that come from foreign countries to be valid in the Federal district and in Lower California must be legalised by the Minister or Consul of the Republic resident in the territory where they are executed, and if there should be none, then by

the Minister or Consul of the nation that has a treaty of amity with the Republic.

Taxes.

These, in the first place, consist of a federal property tax composed of two parts, one part payable, once only, in stamps affixed on every title to a mining property at the rate of \$10 for each claim of 10,000 square metres, or a fraction above half a claim, and \$5 for any fraction less than half a claim; the other payable annually for each claim at the rate of \$10 per claim. This annual tax is to be paid in thirds in advance, the payments to be made in the first month of each third—that is, before July 31, November 30, and March 31. Omission to make this payment is punished by a monthly fine, and the full term or third having expired without payment of the tax the ownership of the mine is lost without recourse. When the owner of a mine transfers his property he must enter the transfer or sale in the public register, and to the deed of sale which is executed the necessary stamps must be affixed according to the Stamp Law.

In the second place there are certain federal taxes on mines, reduction works, and their products. Mines of stone coal in all its varieties, of petroleum, iron, and quicksilver, as well as the mineral products thereof, native, malleable, and cast iron, iron bars, rods, ingots, pigs, sheets, and rails, are free from all federal, local, and municipal tax except the stamp tax. The circulation within the Republic of gold and silver in ore, in bullion, or coin, that of other metals and of all the products of mines is free of the excise or toll tax, and of every other tax. Quicksilver from whatever source is exempt from every burden. Beyond the federal coinage tax, mines and their products not included in the above enumeration do not bear more than a single tax, which is fixed on the gross value of the ore or substance exploited, and which never exceeds 2 per cent. of that value. Export duties are governed by the following provisions:—

"Ores in their natural condition, when exported, shall not be subject to coinage dues, whatever be their size, whether brayed or pulverised, by trituration, crushing, screening, or any other mechanical operation whatsoever, provided they have received no chemical treatment that changes their composition."

"The products of mines, the natural composition of which has been changed by any metallurgical treatment, whether by the dry process or by the wet process, shall, therefore, be subject to coinage dues when exported."

"Ores in their natural state offered for exportation, when mixed with the residues of beneficiation, precipitated silver, amalgam, sulphides, chlorides, or any other artificial product, shall be subject to the coinage dues corresponding to the total value of the shipment, and also the other penalties provided in the General Customs Regulations." Reduction and metallurgical works of whatever kind pay only one tax, of which the limits shall not exceed 6 per 1000 on the value of the property, with its machinery. Any other tax, except the stamp tax, on the extraction, production or profits in metallurgical establishments, capital invested in mines and reduction works, shares or stocks in mines, or on the transfer of ownership of mining properties and reduction works, as well as shares relating thereto, is absolutely prohibited.

TIMBER AND TIMBERING IN COAL MINES.

THE above formed the subject of a lecture given at Derby, on Saturday, November 28, by Mr. H. W. HALBAUM, under the auspices of the Midland Branch of the National Association of Colliery Managers and the Nottinghamshire and Derbyshire County Councils. There was a large attendance of mining engineers, colliery managers, under-managers, and others engaged in mining, and the lecture was followed with the closest attention.—Mr. BEMROSE, M.P., presided, and amongst the others present were Sir Thomas Roe, Mr. Stokes (Miner's Inspector for the Midlands), Mr. William Saunders, &c.

The LECTURER said the importance of the subject was very often overlooked. They were apt to consider that fire damp and coal dust were the great enemies of the miner, but that was not so. If they looked through the inspector's reports for the last 10 years they would find in that district 12 miners had lost their lives through explosions, but through falls of roofs and sides no less than 329 lives had been lost. Last year in the United Kingdom 55 persons lost their lives by explosions, and 426 lost their lives through falls of roof and sides. In the Midland district five persons were injured by explosions, but 570 were injured through falls of roofs and sides. In the United Kingdom 215 received serious injury through explosions, but 2023 persons received serious injuries through falls of roofs and sides. He wanted to impress upon them that that subject was not only a very important one from the point of view of safety, but also from an economical point of view, and anything which tended towards the economical working of coal mines—the staple industry of this country—ought to have their best consideration. The item of timbering was one of great expense in all coal mines. It was one of the chief items of expense, and it was a fortunate colliery where timber only cost 2d. per ton of the coal raised. He had heard of collieries where the cost had amounted to 1s. 6d. per ton of the coal raised. The proper and improper use of timber very often meant either paying a dividend or a serious loss. They had always to be liberal with timber, but there was no reason why liberality should degenerate into waste. He had found that economy went always hand in hand with safety, and waste of timber only meant increased danger to the miner. That day he only intended to deal with the subject of timbering so far only as it affected the pit prop. The first thing they had to do was to choose the timber, and the question was a very important one, because bad timber involved danger of life and limb to hundreds of their fellow workers. They knew when they had a long wall face, roof, and floor coming together, and what the pressure was that caused this movement. In a mine 500 feet deep the pressure was somewhere about 1600 lbs. to the square inch, and whatever kind of timber they used could not resist that pressure. The maximum pressure and the strength of the whole body of strata were coming down; but the object ought to be not to resist the maximum pressure, but to sustain the loosened fragments which so frequently dropped out. Nothing could resist the maximum pressure. What was wanted was timber props possessing the greatest elasticity, which would bend to the maximum pressure, yet sustain the loosened fragments. Rigid crooked props were very dangerous. Steel was the typical material for props, because it had great strength with great elasticity, because it would bend to the maximum pressure, and sustain at the same time the loosened fragments. It was not unlikely that the use of steel would become common. Science had triumphed over so many obstacles that the difficulties in the way of using steel did not appear insurmountable. The main difficulty was the expense and the recovery. Mr. Halbaum went on to deal with the various modes of propping in seams of different heights, but said the system which answered at one colliery would not answer at another. Larch, fir, and the

different orders of pine he recommended as the best kind of timber, as it possessed the most elasticity. With regard to the props to be used in seams of different heights, in tall seams the maximum pressure was greater in proportion, and its effect was irresistible. In a seam 6 feet high the roof would descend 2 inches, where in a seam 3 feet high it would only descend 1 inch, and the size of the prop should be increased in proportion to the height of the seam. The strength of a prop increased with the square of its diameter, though if a 3 feet prop, 3 inches in diameter, had to be put in a 3 feet seam, a 6 inch prop in diameter was more than sufficient for a 6 feet seam. If they increased their props more than was necessary they wasted timber and they infringed upon safety. That part of his subject was one which he should like to see thoroughly investigated by their mining institutions. The strength of timber in ratio to its length and diameter was a very important subject; and then there was the question of knots and other details. The next question was the nature of the roof. The stronger the roof the stronger ought the timber to be. Most of the accidents which happened at the face happened under strong roofs, because they were apt to take liberties with them, and the miner trusted the roofs too far. Strong roofs broke into larger fragments, and that was another reason why they required strong props. Again, strong roofs transmitted the maximum pressure more heavily to the timber. The worst roof they could have was a hard pannelled one, a strata of sandstone with a layer of soft shale above it, which could only be supported by chocks of steel and big timber. The next point was the care of the timber, and that was also one of the highest importance. The prop was simply a collection of fibres which they could tear in pieces. The Lecturer went on to explain the nature of the prop, and said their duty was to take care of everyone of the fibres to preserve their strength and elasticity. They ought to be kept at the surface under cover, properly stacked and ventilated, and preserved from all vermin. The timber required protection from atmospheric forces; the floor on which it was stacked ought to be raised from the ground, and, under no circumstances, ought it to be left lying about the yard. He was strongly against the use of crooked or salted timber, because it was too brittle and snapped like cast iron. Mr. Halbaum went on to explain the different modes of timbering by means of diagrams. He said that 9-10ths of the accidents happened because they had had good roofs behind them, and they always expected good roofs in front. The majority of accidents could be prevented by putting timber in in time, and with a proper knowledge of how to put it in. The props ought always to be put in squarely and firmly in the line of pressure. That was one of the fundamental principles of timbering. If they put timber in in the direct line of pressure they put in what was known as the resultant force. They should set their timber in the same straight line as the line of gravity. The line of gravity was not always the line of pressure. In a steep seam all the timber should be set at right angles to the plane of stratification. The props should also always be set so that the pressure upon them should be distributed evenly over the surface, that every fibre should receive its fair share of the load. Mr. Halbaum also briefly touched upon the advisability of having lids on the props, but spoke against nails being hammered into them. In conclusion, he again referred to the great importance of the subject, which he hoped would in the future receive more consideration from their mining institutions. They had recently in one course had three papers only on timbering and 15 on fire damp and coal dust, but he hoped that before long the subject of timbering would receive the attention that it deserved.

A number of questions were then asked and satisfactorily answered.

Sir T. ROE moved a vote of thanks to the Lecturer, and, in doing so, said that timber cut at one period of the year possessed more life than when cut at another. He had been in the trade all his life, and knew that.

The LECTURER said the point was an important one, and he would take note of it.

A hearty vote of thanks to Mr. Bemrose, M.P., for presiding terminated the proceedings.

TIN TICKETING.

THE fortnightly ticketing for tin ores was held at Tabb's Hotel, Redruth, on Tuesday. Results:—

Mines	Tons cwt.	VALUES OF ORES SOLD BY EACH MINE.		Value.
		Per ton.	£ s. d.	
Dolcoath No. 1	14 0	36 12 6	.....	512 15 0
do No. 1a	14 0	36 15 0	.....	514 10 0
do No. 1b	12 0	37 0 0	.....	444 0 0
Wheal Grenville a	14 0	38 0 0	.....	532 0 0
do b	13 0	38 10 0	.....	500 10 0
do No. 2	5 0	23 7 6	.....	116 17 6
Basset Mines (Ltd.) No. 1	11 0	38 17 6	.....	427 12 6
do No. 1a	11 0	39 2 6	.....	430 7 6
Carn Brea and Tincroft 1	9 0	34 17 6	.....	313 17 6
Mines (Limited) 1a	9 0	35 2 6	.....	316 2 6
do No. 2	1 0	28 0 0	.....	28 0 0
Killifreth	15 0	36 5 0	.....	543 15 0
West Kitty	14 0	39 10 0	.....	553 0 0
East Pool No. 1	12 0	26 12 6	.....	319 10 0
do No. 2	1 0	11 5 0	.....	11 5 0
Phoenix United No. 1	9 0	36 17 6	.....	331 17 6
do No. 2	1 0	28 12 6	.....	42 18 9
Wheal Kitty	7 0	38 15 0	.....	271 5 0
	172 10			£6210 3

AVERAGE PRICE PER TON, £36 0s. 0d.

AVERAGE PRICES PER TON.

October 6	.....£34 9 7	November 17	.....£36 13 8
October 20	.....35 17 6	December 1	.....36 0 0
November 3	.....36 9 11		

VALUE OF ORES PURCHASED BY EACH FIRM.

	Tons.	£ s. d.	
		£	s. d.
Carvedras	34½	1304	10 0
Chyandour	40½	1611	3 9
Williams	25	931	1 3
Redruth	19	718	10 0
Cornish	53½	1744	18 9
	172½	£6210	3 9

THE BELGIAN MAIL SERVICE.—The Belgian Government has divided the contract for three lots (each lot consisting of from 3800 to 5000 tons) of patent fuel, for the Ostend-Dover Mail Steamers, to be supplied between January and March next as follows:—One lot to the Société des Agglomérés de Houille de Châtelain (Fariennes at 16 francs 95 cents per ton, one lot to the Charbonnages de Mariemont or Morlanwelz at 17 francs, and one lot to the Société des Agglomérés Réunis du Bassin de Charleroi at Marcinelle at 17 francs 5 cents.

MINING IN NEW ZEALAND

(FROM OUR OWN CORRESPONDENT.)

THE industry is without any change—the only feature worth recording is the splendid success achieved by the Waihi Gold Mining Company. This old mine has quite excelled itself, for the return for this month and that of the month previous is ample proof of the great producing qualities of the lodes under operation, and it is only a matter of time when the present returns will be substantially increased. Splendid headway is being made with the excavations for the new mill site near Owharo, and also the construction of water races and railways from the mine to the new mill. When this 100 stamp works are completed, then a substantial increase may be looked forward to.

Another important mine which has produced a substantial return for the month is the New Zealand Crown Gold Mining Company. The increase is sound, and the mine never looked better than it does at the present juncture. An increase of stamps is to be proceeded with at once, and the general working of the mine reflects great credit upon the company's superintendent, Mr. Daw, who is working the mine on a thoroughly economical basis. Good pay ore is being met with at the deepest level in the mine, and the general ore reserves are daily increasing. This is, perhaps, one of the best mines on this peninsula, and judging by the present favourable appearance of the milling material coming to hand, there is every reason to believe that there is a long period of steady prosperity in store for the mine, which must have a very gratifying effect upon shareholders.

A line or so regarding the Waitekauri Gold Mining Company. This company has experienced great difficulties, owing to the floods in the district which carried away water races and damaged their property to a considerable extent. They, however, have overcome the obstacles, and are now on a fair way to produce steady bullion returns. It is whispered to me that the developments in the low level are not quite up to anticipations. It is, however, expected that better results will be met with as the level advances. There is only one feature in this district which I am doubtful about, and that is the continuity of the pay ore as depth is attained. In other parts of this particular section of country I have seen the gold-bearing ore become very poor in quality whenever the blue decomposed andesite closes in on the reef and forms its walls, whilst the brown andesite intervenes between the grey or blue country the "pay ore" will continue, but when that gives out it is quite possible that the rich ore will become impoverished, but may again make in the grey channel of country at a much greater depth. However, we will have to wait and see what developments will reveal in the deeper regions. Since writing the above, I gather on most reliable authority that the run of pay ore has been met with in the low level. This should be very gratifying information for shareholders.

Regarding the Cromandel district, the Hauraki Mine continues its steady productiveness, and but very little doubt exists regarding the continuity of the rich shoot as depth is reached. The country continues good, and the general grade ore coming to hand is very uniform in character.

Other mines in this centre are producing more gold than has been the case for some time past.

Kuaotunu.—Some of the high priced mines in this centre are quiet since they were acquired by English capital, and there is really nothing of importance to chronicle from here.

Thames Proper.—The Thames Hauraki, May Queen, Kurunui-Caledonian, and New Albion Companies are conducting extensive developments.

At the Thames Hauraki, the stripping and enlargement of the Queen of Beauty shaft is progressing rapidly; the same remark applies to the Deep Sinker and Consolidated sections of the company's property.—New Albion: Mr. James, the superintendent of this mine, has arrived, and commenced vigorously developing the mine. He is very well pleased with his new charge, and is favourably impressed with the general prospects of the concern.

The May Queen (in my opinion the best mine in this centre) are prosecuting extensive developments. The same remark applies to the Kurunui-Caledonian.

The Parn Consolidated Company are meeting with splendid results in the development works upon their famous Rimu reef. The ore appears to be richer as depth is attained, and the beautiful white decomposed country is highly charged with pyrites.

Cardigan Gold Mining Company.—This mine is at present under option to a powerful English syndicate for the purpose of a flotation, in order to secure sufficient capital to prove the lodes at the lowest levels. For the guidance of your readers and the information of the public generally, I have compiled a general report. This mine is situated in the very heart of the Thames gold field, and is surrounded on all sides by mines that bear indisputable reputations as dividend payers in exceptional large amounts. I refer to that old celebrated mine, the Queen of Beauty, now designated the Thames Hauraki Gold Fields Company (Limited). This mine in the past produced 236,000 ounces of gold, which resulted in the distribution amongst shareholders of no less a sum than £250,000 to £300,000. The Cardigan is peg and peg with the Thames Hauraki, and joins that company on its south-western boundary for a distance of fully 40 chains, embracing the whole of the westerly continuation of the most important proved highly auriferous lodes traversing that company's property.

The seaward or south-west auriferous belt has, so far as developments have reached, proved that the further we extend the developing works south the greater the depth the gold will be found. This is a theory put forth by the most eminent geologists of the age, and, as stated, the explorations have proved to a great extent the feasibility of the theory. As can be seen by the map showing the positions of the most important mines on the Thames gold field, it clearly shows that the Cardigan area, which consists of 64 acres, is traversed from end to end by the Thames Hauraki lodes, of which one of that system is the Vanguard reef, a large ore body of a defined masterly appearance. On its south-west course, owing to the slight difference in their respective strikes, the Vanguard and Queen of Beauty lodes converge towards one another, and junction in the Cardigan; what the result will be remains for developments to reveal, but it has been fully demonstrated on many occasions that where lodes of a gold-bearing character become associated, the result has in the majority of instances been the production of ore of a highly auriferous nature. This state of affairs I am hopeful will be the result when the Cardigan extend their developments in the direction and at a depth indicated.

In addition to the lodes traversing from the Queen of Beauty there are others equally as rich in character and responsible for the production of gold in very large quantities—viz., the May Queen and Una Hill lode system, also the Exchange, and others too numerous to particularise.

Regarding the Exchange lode, the Cardigan Company have

already extended their exploiting works into the channel of country accompanying these ore bodies at a depth of over 300 feet from the surface; here they intersected three to four very promising lodes, containing gold, which was plainly visible to the naked eye. The country abounding on these quartz bodies is of a most favourable description, and of a kindly character for the existence of gold-bearing lodes, and I am of the opinion that when depth is reached upon them, and that of the May Queen system, rich deposits of gold will be discovered.

There is one important feature that when this company commences sinking they will be able to conduct their sinking in a shaft that will be free from water.

My reasons for stating this is that the main pumping shaft now in progress in the Thames Hauraki Company will unwater all the country on the flat, and by contributing a small sum towards the drainage, the Cardigan will be able to direct their operations to any of the lode systems mentioned, and down to any depth desirable.

I look upon the Cardigan as a mine in which any investor may embark capital with a certain degree of safety, and with the prospect of reaping a sound return for the outlay.

Gold Returns.

Waihi Gold Mining Company.—This celebrated mine has once again beaten its own record. During the four weeks ending October 17, 3060 tons of ore were treated for the splendid yield of bullion worth £12,451 the largest value ever obtained by this company. Last month a record was put up with £12,084 from 2820 tons of material. During the present year the total production up to date is £106,447, while the total yield from all sources since 1890 up to date is the magnificent one of £161,160.

Waihi Silverton.—The bullion output is poor for this month, but an improvement is anticipated. 760 tons of ore were treated for a yield of 406 ounces of bullion, valued at £804.

Waitakauri Gold Mining Company.—For four weeks ending September 12 last 459 tons yielded bullion to the value of £1734. During the four weeks ending October 10, 1247 tons were treated for a yield of bullion value at £4236, or a total value for the eight weeks' operations, when 1706 tons were treated and treated by cyanide produced bullion to the total value of £6000. It is anticipated that the quantity of ore that will be treated for the future four weekly periods will exceed by 200 to 300 tons the quantity put through in the month ending the 10th inst.; in other words, from 1400 to 1600 tons a month will be treated.

Cromandel Mines.—Hauraki Associated Reefs Company 10 tons and 400 lbs picked ore, 164 ounces, value £425.

Hauraki Gold Mining Company.—300 tons of ore treated produced 2085 ounces 14 dwts., worth about £6200. Evidently a richer class of ore has come to hand, because the previous month 112 tons extra quartz was put through for £100 less gold. The total output to date amounts to £155,861 19s.

Royal Oak of Hauraki.—6 tons of ore were treated from this mine for a very satisfactory yield of 153 ounces of melted gold; the average return per ton was at the rate of 25 ounces 10 dwts. Prior to this a further small parcel was treated, which brought the total tonnage up to 16; the total value of the gold realised £460 10s.

Tokatea of Hauraki.—18 tons crushed from this mine produced 43 ounces 13 dwts., value £130 19s.

Thames Proper.

The gold returns from here are not increasing, but there is every promise of an improvement when the development works assume a more advanced condition.

Waitakauri Gold Mining Company have completed their usual treatment of ore from all parts of the mine, for a return far above anything previous for some time past; 191 tons of ore produced 342 ounces melted gold, value £936 17s.

Victoria Gold Mining Company crushed 130 tons for a yield of 222 ounces of melted gold, valued at £629 18s. 6d.

Karakia Queen (new mine) treated 5 loads, yield 6 ounces 8 dwts., value £17.

Darwin (new mine), 10 tons quartz, 21 ounces 5 dwts., value £56 10s.

Karangahake District.

New Zealand Crown Mines.—This company had a good remunerative return for the month, the production being £3000. The monthly yields for the present year are as follows:—January £1980, February £2000, March £2126, April £2120, May £2123, June £1910, July £2225, August £1863, September £2000, and October £3000. As soon as this company's stamping power is increased, which they are now carrying on, they should have a still larger yield.

ARTIFICIAL AND NATURAL PETROLEUM.—M. Francis Laur, writing to the *Echo des Mines*, draws attention to the unexpected discovery of the artificial production of petroleum, which, he says, starts a new question of great interest to scientists as to whether petroleum is an ancient deposit in the earth's surface, or is being reproduced to-day in the lower series of measures. Those who consider that the production of petroleum is contemporaneous are (says M. Laur) unable to account for the method of its formation, and have to be content with the mere hypothesis of certain obscure reactions which took place in the bowels of the earth. Now, however, it is only needful to invoke the presence of the metallic carbides which exist in the central nucleus, and which can be reached by the water which is sucked in through the earth's crust, so that it is rational to suppose that fire damp, acetylene, petroleum, tar, and inflammable gases of all kinds may be produced and infinitely modified by the difference of pressure and temperature. Arguing from this point, M. Laur suggests that Lake Bako must, if this is the case, be the outward and visible sign of a natural production of hydrocarbons, while the Caspian Sea, whose issue has not so far been determined, but whose boundary does not grow less, may be regarded as a natural means of feeding the important internal laboratory where the petroleum is produced.

NORTH OF ENGLAND INSTITUTE OF MINING AND MECHANICAL ENGINEERS.—A general meeting of the members of the North of England Institute of Mining and Mechanical Engineers will be held in the Wood Memorial Hall, Newcastle-upon-Tyne, at 2 o'clock, on Saturday, December 12. The following papers will be open for discussion:—"The Causes of Death in Colliery Explosions," by Dr. J. S. Hildage; "Coal-cutting by Machinery," by Mr. W. B. Baker; "Electric Coal-cutting in Longwall Faces," by Mr. T. B. A. Clarke; "Gold Mining in the Hauraki District, New Zealand," by Mr. H. M. Cadell. The following papers will be read:—"The Gold Fields of the Hauraki Peninsula, New Zealand," by Rev. Joseph Campbell; "Notes upon Gold Mining in Burma," by Mr. A. H. Bromley; "The Education of Metallurgists," by Mr. Saville Shaw.

BELGIAN COKE.—The consumption of Belgian coke in Germany appears to be decreasing. Only 71,376 tons were imported into Germany during the 10 months ending with October last, as compared with 123,394 tons in the corresponding period of last year. For France the importations give a more hopeful figure, since no less than 421,904 tons of Belgian coke were imported into that country during the 10 months ending with October last, as compared with 316,305 tons in the corresponding period of the previous year.

We are informed that Mr. B. I. Barnato, in compliance with a suggestion of the directors of the Johannesburg Consolidated Company, and many friends, has decided to proceed direct to Johannesburg to personally conclude the various negotiations in which the Johannesburg Consolidated Investment, and other companies, are interested.

MEETINGS OF MINING COMPANIES.

AFRICAN METALS COMPANY, LIMITED.

THE first annual general meeting of the shareholders in the African Metals Company (Limited) was held on Monday, at Winchester House, E.C., Mr. HUGO ANDREX presiding. The SECRETARY (Mr. Charles W. Moore) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen.—In the beginning of 1891 the report which reached Europe from the Transvaal seemed to show that the cloud which for years had hung over South African gold mining business was about to disperse, because those who mined their faith in the future of these districts, and especially in deep level mining, were able to prove by figures that this forecast was about to be realised. Thereupon, some of the present large shareholders—who were, later on, founders of this company—organised an expedition of expert and business men to study the position of the mining industry thoroughly. These gentlemen, after a very careful examination, not only of the Witwatersrand, but of the southern, western, and northern districts, returned in 1895 recommending the formation of a company with a capital large enough to provide the necessary working capital for mining ventures which might be taken up without being under the necessity of applying to the public in each case. No promotion money or profit of any kind was paid or promised; on the contrary, the entire material, including reports, options, &c., belonging to the founders who, I may mention, are still our largest shareholders, was placed at your directors' disposal, free of charge, to deal with in the interest of the company. In the meantime the boom had set in, and under these circumstances, your directors decided to invest a certain amount of money in options which were under offer, preferring to risk the option money rather than to buy dear properties right off. I may add here that partly on account of the situation arising from the political troubles, and partly because the results of prospecting were not up to our expectations we have since decided to give up most of these options, although adjoining claims had been successfully floated. However, your board was able to secure an interest in some other ventures, which had been carefully studied. The more important investments, besides as interest in another financial company, which has proved very valuable from both a financial and a technical point of view, were a participation in the Molyneux Mines Consolidated, in the Gravelotte Gold Mining Company (Murchison Range), an interest in an option on the farm Geduld (East Rand), and a participation in the Lancaster and Roodepoort Central Deep Gold Mining Company. The price at which we were able to secure the Molyneux shares figured out at about £450 a claim, of which about £200 per claim was available in cash, a price which certainly cannot be said to be high. The reports we have received from the mine, since we took an interest therein, have induced your directors to invest largely in this promising venture. The Gravelotte Gold Mining Company—the shares of which appear with a purely nominal figure in our accounts—is of a much more speculative character, but there seems to be little room for doubt that the district in which this property is situated will come to the front as soon as the Silati Railway is completed. As it stands the Gravelotte Company, which must later on be reconstructed, is the only one in the district which has spent a considerable amount in developments. It has proved two reefs, one 3 feet 4 inches thick, to a depth of 245 feet, and working levels of the ore gave an extraction of 16 dwts. gold per ton. As long as the unfortunate condition in the northern districts prevails, in consequence of the rinderpest, work has to be stopped. The farm Geduld represents a deep level venture of good promise. As to the Lancaster and Roodepoort Central Deep Companies, both are known to be amongst the most promising on the West Rand. In the autumn of last year two of your managing directors preceded to the Transvaal, and remained there until December and March respectively, partly in order to organise the company's branch office, partly to study the position of the mining industry after the collapse of the boom. They were able to secure some very valuable participations in properties on the East and West Rand, and in an exploration company, which, even in the present depressed state of the market, appear to be cheap, and should prove to be valuable assets of your company. When later on the political crisis occurred your directors deemed it advisable to abandon the greater part of the options acquired and to invest in certain good outcrop and deep level companies, like Ban-jas, Ferreira, Jubilee, Pioneer, Village Main Reef, Bonanza, and Deep Level Companies, which are under the control of the Consolidated Gold Fields and Rand Mines. Part of these holdings has been realised; another part is still in our possession, because we consider its intrinsic value far above the prevailing market price. To come back to the business entered into by this company, I have to say a few words about the interest we have taken in gold mines with another firm in the coal farm of Vlakfontein. The position of this property is a very advantageous one for all the consumers on the East Rand, and we feel sure that if we could procure coal at as low a price as our competitors. Our invested capital is comparatively small, and the extensive coal beds are of good quality. We have abstained until now from forming a company specially for working this property, but we are in negotiations which may lead to our decisions. The fact that a great part of our time and work has been spent in making a thorough survey of the southern Rand in districts has induced your directors to take a large interest in the South Heidelberg district, where the geological formation has been ascertained to be identical with that on the Rand. What we must further consider as good business was the purchase of the farm Poortj, which extends from the townships of Heidelberg to the south, and has an area of 4250 morgen. This property will in our opinion prove to be a very valuable asset of this company. Dr. Hatch, the well-known expert, who has reported on the property thus:—"Although from a mining point of view it is of small importance what name is given to a reef, it being only of importance to ascertain the presence or absence of the payable ore body, still it is of geological interest to follow the connection between reefs worked at different points. My investigations in the district in connection with this report have led me to the conclusion that the conglomerate bed on which the Nigel Mine has been developed must pass through the farm Poortj. I am, moreover, of the opinion that the Florida or Bomola reef is identical with the Nigel reef. Although your directors have the greatest confidence in the future of the Heidelberg district, I think that I should tell you that we consider the valuations given as to the probable yield of the Nigel reef as rather sanguine, at least as far as our portion of the mine is concerned. You will remember that one of the most eminent engineers of South Africa, Mr. Hammond, valued the profits of the Consolidated Gold Fields properties on the Nigel reef at probably £9000 a claim. Now, in the Molyneux Mines, we have, according to the present development, come to the conclusion that a profit of about £5000 per claim would be a very satisfactory result. I must add, however, that we have no proof yet that the Molyneux reef is really a continuation of the Nigel reef. It may be so, but they undoubtedly have quite distinct dips, and there is a big fault in the north and west of the farm Bloupoort, which apparently separates these two reefs, and renders their identity doubtful. According to our experience the ground in the whole district is very much disturbed in some places, so that a much higher percentage than on the Rand must be deducted for "emergencies." If we can but make one-fourth or one-fifth of the profit in this eminent mining experts expect as a probability, our holding in this district would be worth a very large amount of money. If you consider that the reef is proved all along the western part of the Rand, and on the north-eastern boundary, and that the Molyneux has over 650 claims, you may figure out the possibilities yourselves; but I wish to point out once more that it is always safe to make a big

allowance for faults and poor portions of the reef in this district. I am glad to inform you that the reports upon the prospecting on the reef are satisfactory. Resuming what I have told you, you will see that according to what was intended when the company was formed we have prepared for profitable business in South Africa, and are steadily working at its development. However, your directors did not think it advisable to limit their operations to South Africa alone. The reports laid before them by trustworthy engineers about properties in New Zealand and North America induced them to join enterprises started by eminent firms whereby we have interests in different ventures, on which the most satisfactory returns are to be had. And in some instances good returns on our invested capital have already been received. Our interest is partly represented by shares, while other participations are in the form of syndicates, which are managed in a most able manner. Our total expenses during the year under review, including losses on investments and amounts paid for options, amount to £51,419 17s. 10d., of which has been absorbed by the latter two items. The balance of £51,428 9s. 4d., and there results a debit of £2021 8s. 3d. to profit and loss, which we have carried forward, and I hope that you will agree with me that in the very difficult circumstances under which we had to work, this result is not an unsatisfactory one, the more if you consider that we had at the time when cheap investments could be made (the beginning of this year) only a portion of the company's capital at our disposal. I may mention that your directors receive no fees, but that their remuneration only consists in a percentage of the profits paid to the shareholders. I shall be glad to answer any questions which you may feel inclined to ask me, and beg to propose the adoption of the directors' report.

Dr. ROBERT GORING seconded the resolution, and it was carried. The auditors, Messrs. Deloitte, Dever, Griffiths, and Co., were re-appointed, and a vote of thanks to the Chairman concluded the meeting.

RHODESIA GOLD REEFS (PURDON'S), LIMITED.

The first ordinary general meeting of the shareholders in Rhodesia Gold Reefs (Purdon's) (Limited) was held on Monday, at Cannon-street Hotel, under the presidency of Mr. CHARLES McCULLOCH (the Chairman of the company).

The SECRETARY (Mr. W. A. Stearns) read the notice convening the meeting.

The CHAIRMAN said that the past year had in some respects been a memorable one both in Mashonaland and in Matabeleland. The company was started about 12 months ago, not as a mining company, but in order to buy certain claims in order to develop them for subsequent flotation. At the time of the flotation of the company they had, as stated in the prospectus, about 250 claims. Since that time, and in the course of the present year, Mr. Purdon, their excellent manager, had, with the full approval of the board, gone on adding to these claims, which had now been increased to 338. In ordinary circumstances that acquisition might be open to criticism, because every increase in the number of their claims meant an increase in their maintenance and development expenses. But in their case Mr. Purdon had confined his purchases simply to an extension of mines which he was finding were likely to turn out particularly well. For instance, in the Lockwood district, they had originally 30 claims. To these he added another 20. In the Lady Midas district, which was situated close by the road between Bulawayo and Mafeking, where all the traffic entered into the country, they had originally 20 claims, but by extensions 50 more had been added. The Lion consisted originally of 10 claims, but to those had been added another 10 claims. The Bronco consisted originally of 20 claims, and another 20 claims had since been added. In the Indian Savage block they had 60 claims; in the Golden Crown, eight claims, and another block of claims called the Edith and Rose, all situated in the vicinity of Bulawayo. They had not attempted to spread themselves out all over the country, but had confined their operations to the vicinity of Bulawayo, where they had found excellent material to deal with. Taking their Lockwood claims first of all, he proceeded to read some extracts from the report of Mr. Purdon, in which that gentleman said: "The reef runs through 30 of these claims, and there are strong indications of ore bodies in the other 20 claims, which are double-banked. After considerable work in the way of sinking we were successful in locating the main body of ore about 50 feet wide. During the progress of work we came across bodies of quartz presumably rich by the ancients, which were remarkably rich in visible gold. Shales should have been sunk, Mr. Purdon went on to say, but the work was interrupted owing to the insurrection, and had not been resumed until lately. At the last meeting, the speaker observed, he had alluded to the Lady Midas as being a mine of great promise. Mr. Purdon wrote with regard to that: "A large amount of work has been put on this reef, and I have every confidence that it will prove to be of very great value on further development. It is undoubtedly a true fissure vein, if there is one in this country. A fair sample assay returns 1 ounce 6 dwts. 9 grains. Portions of rocks left by the ancients abound, and, judging by these, a much higher return may be looked for. I am convinced that this reef will not only be richer, but larger, more to the west, where the old workings are more extensive." In connection with that forecast, it was satisfactory to know that the following cablegram had been recently received from Mr. Purdon:—"The Lady Midas west shaft. Here we come to the north on the 60 feet level; width of vein is 2 feet 6 inches, high grade ore, rich in visible free gold." The Indian Savage claims were among the first to be pegged out in Matabeleland. There were two shafts on the property. The eastern shaft was at present down to the 45 feet level, where the reef varied from 8 inches to 2 feet in width. The estimated yield of free gold by panning was about 3 ounces to the ton, and a fair average sample at the 33 feet level gave 9 ounces 6 dwts. 4 grains. The intention was to continue sinking as far as possible, and then to drive levels east and west along the vein. The west shaft was sunk to the 45 feet level; the quartz gave a return of over 1 ounce, and was not so promising as in the eastern shaft. The facilities for working this property were exceedingly good, water and wood being abundant. Their claims on the Lion were jumped, which in itself gave an idea as to what was thought of the value of the property. One of the shafts was down 45 feet, and here there were two distinct ore bodies, which, together with the dividing casing, measured 12 feet across. The north body was 5 feet wide, and yielded only poor ore, but the southern body was 6 feet wide, and yielded nearly 2 ounces. Assays taken right across, and including the casing of this southern body, gave 1 ounce 6 dwts., 1 ounce 4 dwts., and 1 ounce 5 dwts. Confined to the actual reef, the estimated yield was close on 2 ounces of free gold, and an average sample from about 2 feet of the wall gave an assay value of over 8 ounces. All the experts to whom Mr. Purdon had spoken about this property agreed in saying that it was one of the finest, if not the best, of properties. It had been highly reported upon by one of the best mining experts in the country. The object of Mr. Purdon in continuing these developments was to show that there was a substantial reef which would ultimately produce a large body of ore, sufficient to warrant the erection of machinery. They could imagine that the Lion property was getting rapidly to that stage when they would be able to come forward and invite them to take shares in a company which would take the working of it in hand. The Edith and Rose properties were acquired by Mr. Purdon on what seemed particularly favourable terms, and some work had been done upon them. They might think, therefore, that they had at least three or four exceptional facilities which were offered in connection with the working of their properties. The railway would, shortly be completed to within a comparatively short distance of the property, and water and wood were abundant. Referring to the expenses, he remarked that the expenses had been kept very low,

and they had consequently a very considerable balance in hand of over £23,000.

Mr. JOHN CUTCLIFFE, in seconding the motion for the adoption of the report and accounts, which had been moved by the Chairman, read an extract from a more recent letter received from Mr. Purdon, in which he said:—"Everything points to a brilliant future. I, therefore, am of opinion that we should hold on and do more work, and, when the good time comes, float off groups of claims. The Watts, the Indian Savage, the Lockwood, the Lion, and the Midas would form five groups, and thereby carry out satisfactorily the purpose for which Rhodesia was formed."

Mr. HOWARD, the editor of the *Bulawayo Chronicle*, also spoke, and from personal knowledge of the district spoke in high terms of the prospects offered by the property, and of the integrity and conscientiousness of Mr. Purdon, whose one aim and object was to make a great success of the company. The fact that during last year life in Rhodesia had not been altogether peaceable in character did not make them forget that the colony was a thoroughly good mining country. Of course, the greatest difficulty had been the rinderpest, because when that broke out it quite as effectually stopped mining work as the rebellion, since the mine managers preferred to cease work altogether rather than to carry on mining operations at so serious a loss as would be occasioned by the complete lack of transport. This, however, was not a permanent difficulty, since the Chartered Company had seen the wisdom of actively pushing on the work of railway construction. Since he had been in England people had continually questioned him as to the prospects for mining in Rhodesia; and in answer he could only say that he thoroughly believed that the country would turn out well as a gold producer. This belief was founded on the fact that there were such large quartz formations in the country, many assaying well in gold. There were, undoubtedly, some worthless claims in the country, but, for the most part, he felt sure that Rhodesia would turn out well as a mining country.

The motion for the adoption of the report and accounts was then put and carried unanimously.

The auditors were re-elected at a fee of 15 guineas.

A vote of thanks to the Chairman terminated the proceedings.

BALKIS LAND COMPANY, LIMITED.

The fifth ordinary general meeting of the shareholders in the Balkis Land Company (Limited) was held at Winchester House, E.C., on Monday, Sir ROBERT P. EDGECOMBE (Chairman of the company) presiding.

The SECRETARY (Mr. W. Watkins) read the notice convening the meeting.

The CHAIRMAN, in moving the adoption of the report and accounts, first referred to the balance-sheet. He said as far as the liabilities were concerned, the account spoke pretty much for itself. Coming to the profit and loss account, they would see that the London expenses were very moderate; to a large extent they had been made on the other side by the earnings in London in the shape of transfer fees. Their expenses in the Transvaal during the past year had also been remarkably moderate. They would, he thought, agree that they had succeeded in that. On the other side there was a very satisfactory amount of profit shown, and the rents and the royalties were beginning to come in in a way which was better than heretofore. He must say that when they met last year they had hoped they would have been able to meet the shareholders now under the same pleasant circumstances. Though they did not meet under quite as pleasant circumstances as then, they had no cause for complaint on their own account. Any trouble that had arisen to the company had come from circumstances entirely beyond their control. Last year, as a board, they were beginning to be quite proud of the company. When he first joined it about four years ago their shares were about 1s. 6d., and he thought they had never paid a dividend. Last year they were pretty near to par, and they were on the eve of a 10 per cent. dividend. Unfortunately, their hopes to some extent—but he believed only temporarily—had been dashed. They could not foresee when they met in November last what was going to happen in the last days of December. Indeed, before the last days of December had come they had declared a dividend in the full prospect that they had another first-rate year in store for them. With that sure conviction they paid in January last £10,000 in dividends. Then they thought the troubles would pass away quickly, but for the moment, at any rate, they had stopped their progress in the Transvaal. When these troubles came they felt it was impossible to push things on in the Transvaal, and the question was whether they, as a board, were to sit quietly down and wait for better days, or whether they should not turn their attention over the border of the Transvaal and do elsewhere the best thing for the shareholders under the circumstances. He was hopeful that their efforts, which had been indicated in the report in reference to the gold claims, would turn out eminently to their profit. He was glad to say that they had the opportunity of sending out a gentleman who had considerable influence on the other side, and one whom they were able to trust implicitly in dealing for the Balkis Company in Rhodesia. He was able to go out to the country at the very moment that the war was quieting down, and he was one of the very first to be on the scene at Bulawayo. The directors felt that, after the troubles they had gone through in that country, it might be an opportunity, which would not occur again, of obtaining at moderate cost some of the gold claims there, which undoubtedly only required the railway to be returned into most satisfactory workings. He was glad to tell them that this gentleman had been successful, and that he had acquired for this company a very large holding, and one which he (the Chairman) believed in the course of next spring they would be able to do exceedingly well by. That gentleman had obtained no less than 400 claims, and obtained on option no less than 270 more, making 670 claims in Rhodesia. These were running along different reefs, and it would give them some idea of the extent when he said these claims ran for something like 20 miles upon the reef. The Chairman proceeded to read extracts from letters written by Mr. Thomas, the gentleman in question. In these he stated that there was some difficulty in obtaining claims at all, as there was a disposition to hold at present. Prospectors and others had in many cases received compensation for loss on a liberal scale from the Chartered Company, and, therefore, were really not in want of cash. The claims he had secured were all protected without payment until next June, and some, he thought, for a month or two longer. One of the large blocks was called the Great Crocus, and it contained 300 claims, situated 30 miles south of Bulawayo. The outcrop could be traced throughout the blocks for 5 miles. The reef was very wide, commonly as much as 13 feet. There were only small workings on it. The ore was apparently of lower grade than was usually worked by the ancients, but specimens could be found giving several ounces to the ton, while assays of quartz taken right across the reef showed various results up to 17 dwts. to the ton. He also said in reference to these claims that he believed such an opportunity of acquiring extensive old workings was hardly likely to occur again. Before the war broke out these properties stood at prices which were more or less prohibitive; but owing to the troubles there had been a great opportunity of getting hold of very valuable old workings. These workings in Rhodesia were not abandoned gradually, but, apparently, in a hurry, for in some of the workings there was an immense quantity of damp ready for milling. The intention of the directors was that as soon as their agent came back, and they were in a position to estimate what the properties were, they should decide whether they should be handled as a separate company, or put up with another block of holdings. Mr. Thomas was interested in, and thus make one large joint parent concern. This was a matter they would have to deal with in the early months of next year, in April or May. Whatever the conditions of things might be in the English market, he felt confident that if they went to the shareholders of the company and some other companies which were allied with it, they would have their support in getting together the necessary capital to thoroughly develop some of these properties with a view to putting them out as separate undertakings. At the present moment they were no

in a position to think of a dividend, but at the same time they would not come to the end of their financial year until the end of June, and it was impossible to prophesy how they might be situated at that time. As he had said, he considered it the first duty of the directors to earn dividends for the shareholders, if possible, and that was their constant consideration. After referring to the fact that one of their directors (Lord Coleridge) had been obliged, owing to other engagements, to resign his position, the Chairman said that the vacancy had not yet been filled, as the directors intended to ask their agent who had gone out to South Africa, Mr. Thomas, to take a seat on the board, as they believed his intimate acquaintance with the affairs of the Transvaal, and, indeed, of the whole of South Africa, would make him an exceedingly useful member of the board. In conclusion, he said that the directors would always be glad to see any shareholders who wished to make any inquiry as to the business of the company, and would supply them with every information if they would call at the office. They had an enormous body of shareholders—3000 in number—and it was the earnest wish of the directors that they should take an interest in the work of the company. He had dealt principally with the immediate developments in Rhodesia, because that was the bright side—the immediately bright side—of the company's work. As to their other affairs, he was anxious to see matters improve in the Transvaal; he had no doubt whatever that they would improve; but, of course, it would be very unwise to prophesy as to the immediate future. The Chairman concluded by moving the adoption of the report and accounts.

Mr. H. G. M. CONYBEARE seconded the resolution.

Subsequently, replying to a SHAREHOLDER, the CHAIRMAN said that the Pietersburg Railway was being rapidly pushed on northwards, and that was very important to the Balkis Company, because the great mass of their lands was in the northern districts of the Transvaal. The Mafeking Railway also was steadily progressing in the direction of Bulawayo, and that, too, would be of immense help in the work of developing their claims in Rhodesia.

In the discussion which followed, exception was taken to the item in the profit and loss account of £1714, bonus payable to the directors on payment of the dividend, in addition to their ordinary fees of £550.

The CHAIRMAN said that that was strictly in accordance with the Articles of Association, and reminded the shareholders that last year, when the directors proposed a modification of their scale of payment in the direction of restricting the amount of the bonus, the proposal was not accepted by the shareholders, and, therefore, matters remained as they originally were.

Mr. MORO said he should be sorry if anything were done to limit the amount of the directors' remuneration. He did not believe they could get good service unless they paid well for it, and he thought they had reason to thank their directors for the promptness with which they had seized the opportunity of securing those valuable claims in Rhodesia at a very moderate cost.

The resolution was carried with two or three dissentients.

Mr. Conybeare was re-elected a director of the company, Mr. R. A. March was reappointed auditor, and the meeting concluded with a vote of thanks to the Chairman.

ANGLO-FRENCH EXPLORATION COMPANY OF WESTERN AUSTRALIA, LIMITED.

The second ordinary general meeting of the shareholders in the Anglo-French Exploration Company of Western Australia (Limited) was held on Wednesday, at Winchester House, E.C., Mr. W. F. ORRIS (Chairman of the company) presiding.

The SECRETARY (Mr. E. Fairweather) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—The report and accounts placed before you to day show the result of the company's transactions for a period of 15 months, and I have much pleasure in now asking you to approve and adopt them. As you will observe from the report, the net profits from May 7, 1895, to July 31 of the present year, after writing off the entire preliminary expenses and making ample provision for depreciation, amount to £100,793 15s. (Applause.) Of this sum £61,928 6s. 6d. is profit in cash, and £38,864 13s. 11d. is profit in shares, and as this result has been achieved on a paid-up capital of under £20,000 we can only assume that it will be entirely satisfactory to the shareholders. In October, 1895, an interim dividend of 5s. a share, or 50 per cent. on the ordinary share capital, was paid, and also an interim dividend of £6 10s. 2d. on the deferred shares. We now propose to pay a further dividend of 3s. per share on the ordinary shares, making 8s. returned on each of the original ordinary shares of 10s. paid. This is equivalent to a dividend of 80 per cent. on the amount paid up. (Applause.) A further sum of £3 1s. on the deferred shares, making a total distribution on them of £9 11s. 2d., is now recommended, after placing to reserve the sum of £76,955 6s. 11d. I have within the last few weeks had the pleasure of meeting the shareholders in the first three companies of the Venture Group, and presenting to them similarly favourable results. This company is the fourth of the group, and it may be interesting to review the results of the joint working up to July 31 last. All these four syndicates, as you are aware, have acted together, each taking an equal share in the business that has been transacted. The paid up capital of the four companies amounted to £95,071 10s., and the net profit earned has amounted to £405,400 19s. 3d., which is more than four times the amount of our capital. Including the dividends we declare to-day, the sum of £117,596 0s. 4d. will then have been returned to the shareholders in dividends, and £280,032 16s. 7d. will have been carried to the reserve fund. We are sure that the shareholders will approve of our policy in carrying this large sum of £76,955 6s. 11d. to reserve. We are experiencing a depression in mining matters, the duration of which we cannot foretell, and it is essential, in our opinion, to retain such ample reserves as will enable us to develop and work our own properties, and prevent the necessity arising for making any further call upon the shareholders of this or any other company of the group. You will readily understand that it is impossible in these dull times to make profits as rapidly as when the markets are active. I am glad, however, to inform you that three properties in which the company has an interest have been sold since the date of the balance-sheet, the sale of all of which should be completed before the end of the current year, and upon which we shall receive a very considerable profit. (Applause.) Offices are being erected in the best parts of Perth and Coolgardie for the accommodation of the Venture Group and the subsidiary companies, and your directors, in view of the rapidly increasing value of property there, having thought it a desirable investment, have applied a portion of the funds for that purpose. In the early part of this year we secured on your behalf the services of Professor Chemin, who enjoys a high reputation in France, to go out to West Australia as our mining engineer. Before his departure, the French Government instructed him to report to them officially upon the gold fields, and with this object, besides inspecting the properties owned or under offer to this group, Professor Chemin visited most of the leading mines in the various districts. He has drawn up a report upon the fields to the French Government, and we have every reason to believe it will be of a favourable character. Professor Chemin is now on his way to Europe, and his report will probably result in greatly increasing the interest which the French public take in the West Australian gold fields. From the communications which reach us from shareholders, so far as we are able to judge, there is a growing feeling that it may be desirable to amalgamate the nine companies known as the Venture Group. Working together as they do, many advantages would undoubtedly result from the amalgamation, the most important being a considerable saving in the expenses. We have it now under our careful consideration whether a satisfactory plan can be devised which will be at once equitable to all the companies, and suitable and advantageous to all the shareholders. If a thoroughly careful review of the position satisfies us that your interests would be

served by such a combination, so soon as it has taken a concrete form it will be laid before you for your consideration. The difficulties which beset the mining enterprise in the early days of Western Australia are being steadily overcome by the combination of private action and Government aid. The Government are encouraging the development of the gold fields by expending large sums in meeting the water difficulty and extending the railway communication throughout the colony. The labour conditions have also been recently much improved by concessions which, we hope, may be still further extended. I would only further say that the directors hope that the shareholders will fully recognise the energy and ability displayed by the managing director (Mr. Baker), the manager (Mr. Bird), and the entire staff of the company, in endeavouring to make it a thorough success. (Applause.) I now beg to move:—"That the accounts, as certified by the auditors, be passed; and that the report of the directors, as submitted, be adopted; and that the dividends recommended therein be declared."

Mr. G. H. COLLINS seconded the motion, and it was agreed to *nem. con.*

Mr. L. G. BARBER moved the reelection of the auditors, Messrs. Monkhouse, Stoneham, and Co.

Lord DOUGLAS, of Hawick and Tibbers, seconded the resolution, which was carried.

Mr. SOPHUS A. W. HOWMANN expressed his approval of the amalgamation proposal, as it would be the means of putting all the companies in the Venture Group on an equal footing.

Dr. J. LAGERWALL proposed a hearty vote of thanks to the Chairman and directors.

The motion was seconded and agreed to.

The CHAIRMAN, in reply, said it had been a great pleasure to him to meet the shareholders with such a satisfactory report, a pleasure which was enhanced by the approbation they had most kindly shown for the services of the directors. It went without saying that the efforts they had exerted in the past would be continued in the future, and it was the directors' hope that when they again had the pleasure of meeting the shareholders that they might be able to place before them a statement which would be as equally satisfactory to them as the one submitted that day.

The meeting then terminated.

ALLIANCE EXPLORING AND FINANCE CORPORATION, LIMITED.

The statutory general meeting of the shareholders of the Alliance Exploring and Finance Corporation (Limited) took place on Thursday, at Winchester House, Old Broad-street, Mr. H. ELLIOTT-SPARKS presiding.

The SECRETARY (Mr. A. Shynn) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—As you are aware, from the notice which has just been read by the secretary, this is the statutory meeting of the Alliance Exploring and Finance Corporation (Limited), and there is, I think, no need for me to point out to you that a meeting of this description, which is purely formal, does not permit of any great amount of detailed information being laid before the shareholders, by reason of the fact that it has to be held within four months of the registration of the corporation, a time too short in itself to do much more than really commence operations, although, on the present occasion, there is a good deal of satisfactory intelligence, which it will be my pleasure to convey to you. You will remember the prospectus, which was issued to you, stated that the corporation was brought into existence for the purpose of dealing with mining properties, more particularly located in the British colonies, and short details of several properties, on which we had obtained options of purchase, were therein set out. The majority of these properties were situated in the colony of Western Australia—a colony which has lately engrossed the attention of mining investors to some very great extent, and I may tell you that it was to this colony that your directors, in the first instance, turned their attention, and secured for your corporation a mining property of undoubted merit and proved wealth. I think, however, it may be as well, before giving you details of what we have done, to ask your attention for a short time to a consideration of Western Australia as a gold-producing centre. As you are doubtless aware, for some time past the mining market, as evinced by the daily reports from the London Stock Exchange, has been in a very depressed and unsettled condition, and many sinister rumours have been floating about, that as far as Western Australia is concerned we should find that the boom that was predicted in the mines of this colony would fail to arrive, and instead of a boom we should have nothing but a series of dismal failures to report. It is because of these rumours that I would wish to offer the remarks which I am about to make, and to let us see by a cool and dispassionate, but necessarily short, review of the position of affairs, if these rumours are in any way justified, or if, on the other hand, we can look forward with every confidence to a future of bright prosperity for Western Australia. Now, to deal, in the first place, with the present depression, it is manifestly unjust, and decidedly unfair, to blame Western Australia. If we really wish to arrive at the cause of this depression, I do not think we should go farther than to point to South Africa, for this has been the keystone of the position, and this is the country that has been the cause of all the uneasiness. South Africa, for some years past, has been the one great mining quarter to which investors and speculators have been giving their attention, and the internal dissensions which have taken place there, the uprisings and shutting down of the mines, and the professional manipulation of shares to the detriment of the genuine investor, have produced such an absolute want of confidence that prices have sagged and sagged away until it has brought about a desperately depressed condition. And the unsatisfactory condition of affairs with regard to South Africa has reflected itself, as it is bound to do, upon the comparatively infantine mining industry of Western Australia. I venture to think—in fact, I am certain—that nothing has taken place in the mining industry of Western Australia since British capital has been attracted to it to warrant the slightest cause for alarm, but, on the other hand, a consideration of the progress of this colony will show that everything is in a really prosperous and healthy condition, and the future, I do not say immediately, but I will say the near future, will prove that in Western Australia we have the richest gold-producing centre known to mining history. In support of these statements, I will refer you, in the first instance, to the increase of population which has taken place in the colony during the past five years. People may be attracted to a colony by the excitement of hearing that fortunes are being made there, but if upon getting there, and trying their luck, as it were, they find that they have made a mistake, they do not stay to starve, but come away and leave it, taking good care to inform others that the bright promises which were held out to them were not to be relied upon, so that for a short time, and a short time only, can the population of a colony increase upon false rumours. But what do we find to be the case in this respect with regard to Western Australia? I do not think I can do better than to quote to you statements made in the Budget speech of Sir John Forrest, which deal not only with the question of the increase in the population, but it goes further, and lay before you plain, unvarnished, and undisputed figures with regard to the remarkable increase of the revenue. He says:—"In every department the progress of the colony has been remarkable. Whereas in 1890 the total population of the colony was only 40,788, it now stands at 122,420, the average rate of increase being 1000 per month. During the 12 months ending June 30 last the increase was no less than 32,870—that is to say, that nearly a quarter of the present population of Western Australia has been added to in a single year ending last June." Turning to the revenue receipts, he showed that in 1890 these amounted to only £414,000 for the year, and that in the financial year just closed they had been brought to £1,858,691. The report for 1895-6 showed £732,764 more than that

for 1894-5, or an increase of 60 per cent. in one year. Gentlemen, these figures speak for themselves. It is not to be suggested that the increase in the population and revenue of Western Australia has been caused by anything else, but simply and solely by the mining industry, and by the fact that every day brings intelligence of the opening up of new gold fields of unquestionable wealth and permanence. And so you will, I venture to think, find the population increasing by even greater leaps and bounds; and, in spite of this temporary depression, you will find that British capital will continue to find its way into Western Australia, and by its assistance place that colony in the position which it justly deserves to occupy. Going still further into the matter, let us consider what has been the result of the work of some of these mines which have had their machinery going, and to see how far the figures of the actual crushing returns will lead us to the conclusion that it is only a question of time for other mines, so soon as they get into working order, to achieve similar results. In order to illustrate the increase in the crushing returns of Western Australian companies, I may mention that the 13 leading producers have improved their output by no less than 57 per cent. during the past 12 months, the total rising from 146,499 ounces at the end of October, 1895, to over 255,000 ounces at the end of October of this year. When you come to think of the difficulties which these pioneer companies have had to encounter; when you come to think that Western Australia a few years back, especially its gold-producing districts, was comparatively nothing more nor less than vast desert lands; when you come to think of the great difficulties of transport and lack of means of communication, no railways, and no possible means of getting them built; the enormous difficulty of living, I may also say of existing, which the pioneers had to encounter—I say, and I say it fearlessly, that Western Australia to-day shows a record of progress, the equal to which cannot be found, and in this respect I may tell you that the progress made by Western Australia in the time is far, very far, in advance of anything that was ever done in a similar period in South Africa. (Applause.) Gentlemen, it is all very well for us to sit down here and say we have put so much money into the gold mines of Western Australia, and after waiting nine or ten months to look for a very substantial dividend, and to hold up our hands deprecatingly because we do not get it; to be continually calling out "Why have you not made greater progress? How is it that if you have the gold you have not been able to extract it, and pay us dividends. There must be something wrong; there must be bad management. Or, perhaps, it is that the whole thing is a fraud, that you have really no mine at all," and so get disgusted. I say, it is all very well to do that, but consider, on the other hand, the difficulties which must go hand in hand with the opening up of gold mining in a colony such as Western Australia. I say, consider these difficulties, and consider them reasonably and fairly and with patience, and I think you will then come to the conclusion, after looking at all the circumstances, after looking at what has been done in the past, and what is now being done, that instead of there being any cause for alarm, the real facts of the position warrant the statement that Western Australia has before it a great future. (Applause.) Consider that now railways are spreading themselves over the colonies, that means of transport are every day becoming easier, that towns are springing up, that postal and telegraphic communication is being effected in every direction, that people can now lead a civilised existence, and that mining can be carried on under normal conditions—I say, consider these facts, and you will then see that the difficulties of the past are giving way rapidly to all those favourable conditions which must make gold mining, so long as you have mines such as you have in Western Australia, an undoubted and undoubted success. Much has been said with regard to the one great difficulty—namely, the water question—but this is being vigorously taken in hand, not only by private capitalists but by the Western Australian Government. A little patience, and you will find that energy and capital will be the cause of making this difficulty disappear. You cannot expect that at the commencement everything will be smooth and plain sailing. It is the encountering of difficulties in the past which has spurred men on to greater efforts, and it has resulted in the difficulties being overcome and the new condition of affairs being brought about. I cannot help quoting the statement appearing in a financial paper of Friday last, which says that a very great number of West Australian companies have just started crushing, or are about to do so, and that these companies which are cited will raise the gold output to the extent of 20 or 25 per cent. And so you will find now that we shall be continually receiving news of a similar character. It is all very well to call out, "Look at the amount of money which has been invested in Western Australia during the past 12 months, and what return have we to show for it?" Is it reasonable to expect any return within this period? The property has to be, in the first instance, very carefully and efficiently developed in order to put it into position for the reception of machinery, so that when machinery is put up it is a case of going along smoothly and having regular fortnightly crushing returns. But until the mine has been properly developed it would be simple madness to erect costly machinery and let it stand idle and depreciate. This is the true state of affairs with regard to Western Australia. The properties which have been brought out and placed before the public in the last 12 or 18 months have been systematically and properly developed, and every week, as I have just told you, will bring us intelligence that this or that mine has its machinery erected and has started regular crashings; and I venture to say that you will see the gold output within the next few months rise simply by leaps and bounds. (Applause.) Gentlemen, I do not see that I can say anything further with regard to Western Australia. I thought it was only right and proper at a meeting like this to offer these remarks for your consideration. Of course, the statements I have made are founded chapter and verse upon solid facts, and theory does not enter into the question. I will now pass on more particularly to make a few remarks with regard to this corporation, what we have done, and what we intend doing. We have acquired a property situated in the Broad Arrow district in the Coolgardie gold fields, and with regard to this particular district you will find some very interesting reading in a financial paper of yesterday's date. It was reported upon by Captain Rutter, Mr. James Bibby, and Mr. de Courcy Browne, late Chairman of the Government Mining Board of New South Wales. This property was favourably considered by us in the first instance, and from the result of the inquiries which we made, we came to the conclusion that it was in every way genuine, and that its acquisition was most desirable. I may tell you that in speaking of it Mr. James Bibby states:—"The Borealis is looking very well. Struck a very large body of ore at 60 feet." Mr. de Courcy Browne states:—"The Borealis is being steadily developed, and will prove a good mine. It promises to make a name among the Arrow Mines." And later the same gentleman reports:—"The Borealis is on good gold, and is developing splendidly." Captain William Rutter states:—"The Borealis reef traverses the property at its entire length, and gives a result of over 3 ounces per ton. The Aurora reef likewise runs from north to south through the property, and has given a result of from 2 to 3 ounces per ton. The Iron Duke Extended reef traverses the property at right angles, and has been proved to a result of over 1 ounce per ton. A shaft has been sunk on the Borealis reef in the southern extremity of the property to a depth of something like 40 feet, and has discovered a rich body of quartz. This will give a result of from 2 to 3 ounces to the ton. This shaft has proved the value of the reef, and a crosscut through the reef in a westerly direction conclusively proves the existence of the reefs already mentioned. This property, with careful management and proper machinery, will prove one of the greatest values in this district. I conclude from the nature of the quartz, the depth and existence of the reefs, that a battery of 20 heads will find constant and profitable employment." We went further, and we sent out our own consulting engineer, Mr. H. M. Deakin, M.A.I.M.E., to make a thorough examination and investigation of it, and the report which he sent us I have here, and I will read you some extracts from the same. He states:—"The Borealis looks splendid. Struck an

important body of quartz; by assay will give 5 ounces per ton. And again this gentleman, in his report addressed to the corporation, states:—"According to your instructions I went to the Broad Arrow, and carefully examined and inspected lease No. 1984, situated west. The property consists of 25 acres, numbered 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100. (A) A started with a view to conserving all the surface water, as this is the lowest point of the lease. (B) is a shaft 50 feet deep. At this level a drive to the north 6 feet has been put in. The reef here is about 18 inches to 3 feet wide, and gradually widening as it goes down. At the end of the drive a formation 5 feet thick has been met with. Both this formation and the reef are contained in well-defined walls. The prospects obtained from stone taken from the reef by myself, and drilled carefully on the spot, gave magnificent results. The lode formation was also tested by me in different parts, and I have no hesitation in stating that both the reef (C) is a constant 100 feet long, showing a strong parallel reef over 3 feet wide, and underlying slightly to the east. I have no doubt that this parallel reef will junction with the reef mentioned in results will be obtained. (D) is a shaft 100 feet deep. Here the reef has just recently been struck, thus proving the continuity of a rich lode 5 inches wide has been disclosed, and here I could see gold in the stone I would not doubt it, as I feel certain the result would be too good to quote as a general average." General remarks:—"The water question in this locality has been now practically settled, inasmuch as at a depth of from 190 to 250 feet water is plentiful. The timber difficulty need not trouble you here, as there is a sufficient quantity on the lease and in the immediate vicinity for all practical purposes. There can be no doubt that the two reefs which have been proved to exist on your property are permanent. They are composed of quartz, intermingled with ironstone. The gold contained is of a very pure nature, and very little mineral is contained in the stone, therefore the extraction of the gold will be easily and speedily accomplished. I will conclude my report by making the statement that you have a valuable property, and one which will in a short time prove to be continuous dividends a benefit to the persons investing in it. Gentlemen, you will see that, although a period of only five months has elapsed since this corporation was brought into existence, we, as directors, have lost no opportunity of exercising every possible care and taking every possible precaution in proving that our original selection was justified. It would be difficult for anyone to suppose that the reports, which it has been my pleasure to read to you, are not all founded upon solid facts supplied by engineers of great experience and ability. The last report which was made by our own consulting engineer, Mr. Deakin, a gentleman, I may state, in whom we have the greatest confidence, clenches and puts aside all question of argument on this point. He proceeded to Western Australia in our interests, and in our interests purely and simply, with instructions to lay before every fact and possible difficulty. I say it would be impossible, after the receipt of his report which I have read to you, to doubt that we have secured a really genuine property as it would be possible for us to find. We have several reefs upon it of proved wealth and of a permanent character. We have no difficulties in the way of timber or water. We have gone through the preliminary stages of development, and we are confident that, so soon as we erect the machinery necessary for the extraction of the gold, we shall be able to render you such a satisfactory account of the working as will result in your receiving a most substantial and lucrative return upon the capital which you have invested in this corporation. (Applause.) I may tell you that since we took this property up we have gone on steadily with its systematic development; this, I have informed you, should always be carried out before the machinery is erected. Well, gentlemen, we are going to sell this property to a subsidiary company which we have caused to be formed, and within the next few days a contract for the sale will be duly entered into, and the result of it will, I am confident, not only bring to the shareholders of this corporation a profit of a most substantial character, but will bring great credit upon us by reason of our being able to place before the investing public a mine, the richness, permanence, and bona fides of which has been thoroughly proved, and which will in the future, I am confident, return handsome dividends to those who may become shareholders in it. (Applause.) Before any public issue of the prospectus is made we shall forward to each one of you an advance copy of the same, in order that you may, if you think fit, secure for yourselves or your friends a prior interest, as we think it only right that you should always have the first opportunity of interesting yourselves in any business which we may undertake. I do not think I can add anything more to what I have already told you, but it certainly is my pleasure to state, on behalf of my colleagues and myself, that we shall all use our best efforts to make this corporation and everything connected with it a success. (Applause.)

Mr. WILLIAMSON proposed a hearty vote of thanks to the directors, and especially to the Chairman, for the admirable manner in which he had put the position of the company before the shareholders. (Applause.)

Mr. SAINBRIDGE seconded the motion, which was carried by acclamation.

The CHAIRMAN: Gentlemen—On behalf of the board and myself, I thank you very much for the vote of thanks you have so unanimously passed. I may tell you that the directors have not yet the present moment received a single penny in the way of fees. We feel absolutely certain that we are in for a good thing, and that if you give us a little longer we shall be able to show you very satisfactory returns. (Applause.)

The proceedings then terminated.

COLOMBIAN HYDRAULIC MINING COMPANY, LIMITED.

The ordinary general meeting of the shareholders in the Colombian Hydraulic Mining Company (Limited) was held at Winchester House, on Thursday, under the presidency of Mr. J. T. P. PARKER (Chairman of the company).

The SECRETARY (Mr. S. A. Cobbett) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—I have to move the adoption of the report and accounts. It is many years since we had to ask you to adopt a report and accounts showing a profit of only £200, and I need hardly tell you that with all my heart I hope and believe it will be many a year before we have to ask you to adopt such a report again. I was looking back just now at the last 10 years' work of the company, and I find that we have averaged, over the period, a profit of between £10,000 and £15,000. I have no doubt you have all followed closely the reports which have been published from time to time, and if you showing the work that has been going on at the mine, and if you have you will have had no difficulty whatever in noticing the reasons why the profits have been smaller during the past year. I think it may be summed up very well in the words of the superintendent's report, which was presented to you at the last meeting. He concluded by saying, "there is always considerable expense and delay in making new openings," and then, in his report this year, he mentions:—"From that date to August 23 work was pushed on through a large area of old Spanish workings on the level of the Paros ridge. This was a very tedious process, as the Spaniards had left very little sound gravel to run off the tailings." You will remember also that the reports from time to time have stated that the superintendent had encountered very hard rock—much harder, in fact, than he had expected to find, in making the new opening to enable him to get to this ridge. In consequence

it contained gold, the mine had pinched out in a remarkable way. Experts had proved that it was an unfortunate property, and that it had led astray many of those who had reported on it. The proposal now was to take over another mine which had been offered to the company, and of which £4000 would be required to put it in order.—After some discussion it was resolved to obtain an independent report on the new property before coming to any decision in the matter.

BROWNHILL GREAT SOUTHERN (LIMITED).

The first ordinary general meeting of the shareholders in the Brownhill Great Southern (Limited) was held on Saturday, at Winchester House, E.C., when the Chairman (Mr. F. Morton Eden) stated that the property had been duly transferred to the company, and Mr. Percy Thursby was subsequently appointed mine manager. The result of the operations up to the present were of a very encouraging nature, a fine gold-bearing lode formation having been struck. Writing on September 23, Mr. Thursby stated:—"Since my last letter of the 15th we have finished crosscutting through the lode, and find it measures 19½ feet thick. It has as fine an appearance as any other lode on the field, and I firmly believe that if prospected in a new place on the line it would give first-class returns. No man, be he ever so fastidious, could wish for a lode of finer proportions and more generally good appearance. We are now prospecting the country situated north-east of the shaft, and are in 70 feet. Here, too, we are intersecting a great many veins of quartz, seams of ironstone, and bands of lode matter. Better looking gold country could not possibly be found, but it requires prospecting."—A vote of thanks to the Chairman concluded the meeting.

QUEENSLAND SMELTING COMPANY (LIMITED).

The eighth ordinary general meeting of the Queensland Smelting Company (Limited) took place on Tuesday at the office, 34, Gresham-street.—Mr. R. B. Clayton, who presided, said that last year he expressed confidence that the company would improve under the able guidance of Mr. Weinberg, and that confidence had been correctly placed, as was shown by the profit carried to the reduction of the last debit balance on revenue account. If this had been accomplished under the present circumstances, it was evident that, with a liberal supply of share capital, dividends would be forthcoming. The credit of the company throughout the colonies was undoubted, and its relations with mine owners and producers were on such a foundation that a solid business was being built up. There had been constant additions to the work, and the land, which was the other chief asset, was increasing in value. The branch railway, though constructed by the company, was part of the Government undertaking, and he hoped before long it would be taken over by them and the cost refunded to the company, who had practically been the traffic makers and chief contributors to its revenue. He wished to draw the attention of the Queensland authorities to a public meeting held under the auspices of the Bondaberg Chamber of Commerce previous to the formation of the company. At that meeting resolutions were adopted calling upon the Government to subsidise large works for dealing effectively with auriferous sulphide ores. The erection of the company's works followed closely after, and the then Premier, Sir S. Griffith, at their opening, promised to subsidise the industry, the Government being thus still morally bound to carry out such a promise.—The report was unanimously adopted.

WAIKAKAURI EXTENDED (LIMITED).

An extraordinary general meeting of the members of the Waikauri Extended (Limited) was held at Winchester House, E.C., on Wednesday, when the subjoined resolutions, which were passed at an extraordinary general meeting of the company, held November 16, were submitted for confirmation as special resolutions:—(1.) That it is expedient to effect an amalgamation of this company with the Waikauri Central Gold Mine (Limited). (2.) That the conditional agreement submitted to this meeting be and the same is hereby approved, and that the directors be and they are hereby authorised to carry the same into effect, with such (if any) modifications as they may think expedient. (3.) That the capital of this company be increased to £175,000 by the creation of 90,000 new shares of 40s. each.—Mr. G. Hardie, the Chairman, formally moved the confirmation of the resolutions, and said he was happy to say, as Chairman of both companies, that he had not heard of a single dissent to the proposal. He was also pleased to state that operations at the Extended Mines were being vigorously prosecuted, with satisfactory results. The resolutions had already been confirmed by the Waikauri Central Company.—The resolutions were seconded and carried *nem. con.*—A vote of thanks to the Chairman concluded the meeting.

TOKATEA OF HAURAKI (LIMITED).

The ordinary general meeting of the shareholders in the Tokatea of Hauraki (Limited) was held on Thursday, at Winchester House, E.C., Mr. G. Hardie presiding.—In moving the adoption of the report and accounts, Mr. Hardie explained that Mr. C. Hartridge, the Chairman of the company, was at present paying a visit to the property. The position of the mine was very similar to that of the Royal Oak, the only difference being that one company was proving the great Tokatea lode in a northerly direction, and the other was proving it in a southerly direction. Therefore, as he had told the shareholders in the Royal Oak, an amalgamation of the two concerns was very desirable, and the directors were now considering the matter. Although no phenomenal returns or remarkable results had been made, Captain Hodge had been rapidly developing the mine, and had great confidence in the future of the property. He summed up his report as follows:—"It has been no easy matter to reopen the mine, and do what we have done to prove a good payable reef below the No. 7 level, but I am very highly pleased at the results obtained, and feel as I have on various occasions expressed myself, justified in leading you to expect a very large and dividend-paying property below the No. 7 level, after developments have been sufficiently advanced."—Mr. J. E. Rush seconded the motion, and it was agreed to.—The retiring director, Mr. Rush, was re-elected, as also were the auditors, Messrs. Bolton, Pitt, and Breden.—Captains Argall and Mr. Barber also addressed the meeting, both being of opinion that there was a good future before the company.—Votes of thanks to Captain Argall, Mr. Barber, and the Chairman and directors concluded the meeting.

NORTH TOLIMA SILVER MINES (LIMITED).

The ordinary general meeting of the North Tolima Silver Mines (Limited) was held on Thursday, at the office, 10, B. omfield-street, E.C., Mr. B. Langdale Barrow presiding.—The Chairman, in moving the adoption of the report, congratulated the shareholders on the present position of the mine. Since their last important discoveries had been made at Saito No. 1 and No. 2, where a fine lode has been cut, which was producing exceedingly rich mineral, in addition to which the workings on the Esperanza continued to improve beyond their expectations. The deepest point they were working was estimated to yield from 20 cwt. to 25 cwt. of mineral per fathom. An assay had given, after washing, 490 ounces of silver and 64 ounces of gold per ton. The directors hoped very shortly to put before the shareholders a scheme for raising sufficient capital to carry on the development work. They had upwards of £36,000 worth of mineral open, and every fathom driven increased their reserves.—Mr. Russell stated that from the day the machinery went to work a profit of at least £1800 a month should be made. The actual reserves in sight would last over two years, but in the meantime further ore would be laid open.—Mr. Rogers seconded the motion, which was agreed to.

ROYAL OAK OF HAURAKI (LIMITED).

The ordinary general meeting of the shareholders in the Royal Oak of Hauraki (Limited) was held on Thursday, at Winchester House, E.C., Mr. G. Hardie (Chairman of the company) presiding.—In moving the adoption of the report and accounts, the Chairman said that since the formation of the company the Bismarck and Stirling Castle claims had been acquired at a cost of £550. It was evident to him, after reading the reports received by Captain Hodge, that he had greater difficulties to contend with than he anticipated. They would remember that the property was not a virgin one, having been worked previously. Captain Hodge had the most unbounded confidence in the mine, he believing that it

would at no distant date become a dividend-paying concern. As they would see by the plans of the workings, this company's mine and the Tokatea of Hauraki were constantly intersecting one another, and the directors were at present considering the advisability of an amalgamation. In regard to the results of the developments, they had so far been of a very satisfactory nature; 6 tons of stone taken from the No. 5 level had yielded 153 ounces of gold.—Mr. A. M. Jay seconded the resolution.—Captains Argall, Mr. Nathan, and Mr. Barber, who had all seen the mine personally, expressed themselves as highly satisfied with the prospects of the company.—The resolution was carried, Mr. G. Hardie was re-elected a director, Messrs. Bolton, Pitt, and Breden as auditors, and the meeting closed with a vote of thanks to the Chairman and directors.

ELLA (TRANSVAAL) GOLD MINING COMPANY (LIMITED).

The annual general meeting of the shareholders in the Ella (Transvaal) Gold Mining Company (Limited) was held at Winchester House, E.C., on Monday, Colonel Hughes-Hallott presiding.—The Chairman said from the developments that had taken place on the property, they could hold out the most hopeful views with regard to the future of the company. The district of Zoutpansberg, in which the mine was situated, was a very old mining locality, and Mr. Walter Moore, the well-known mining geologist, was of opinion that the country there was very rich in auriferous deposits. When the company was formed only 24 claims were held, but since the number had been increased to 130, and in addition a water-right had been secured, no cash had been paid for the extra claims. They did not suggest to the shareholders that all the claims would be kept and worked by the company itself, the directors believing that they could sell a portion very advantageously. Referring to the operations already carried out on the property, he stated that the assay value of the stone was 3 ounces 18 dwts. 12 grains. The question of machinery was now being considered by the directors, and for this purpose no doubt another call would be made.—The meeting closed with a vote of thanks to the Chairman.

GOLD EXPLORATION OF WESTERN AUSTRALIA (LIMITED).

The second ordinary general meeting of the shareholders of this company was held on Thursday, at Winchester House.—Mr. Emil Oppert, who presided, stated that the loss of £2079 shown in the balance-sheet was more apparent than real, as the company had assets of considerable value, for which full credit had not been taken in the accounts. With regard to the dispute they had had with Captain Begelhole, he said the directors had taken the necessary steps to enforce the company's claim against that gentleman. The amount involved was about £5000, and he believed they would be successful in recovering the money. He had to announce that the West Australian Gold Concessions (Limited), which was the first English company to acquire properties in the Black Flag district, had offered them, free of purchase price, a quarter share in a mining property of nearly 50 acres, known as the Ajax. All this company was required to do was to pay their proportion of the requisite expenditure for labour, &c. Of course, it was open to the shareholders to reject the offer if they felt so inclined. After dealing with several anonymous attacks which had been made on the board, he expressed his opinion that, in view of the circumstances, they had cause to look to the future with hope. He concluded by moving the adoption of the report.—Mr. H. Times seconded the motion. In answer to a question why the Gold Concessions (Limited) had made their offer, the Chairman explained that, as they all knew, that company had been connected with this company since its inception, and, as they did not wish the shareholders to feel dissatisfied with what they had done for them, they had agreed to transfer to them a quarter-share in an additional property.—After some discussion with reference to the founders' shares, which the Chairman said, were entitled to half the profits after 10 per cent. had been paid to the ordinary shareholders, the report was adopted, and the proceedings terminated.

STANDARD OIL COMPANY OF GALICIA.

An extraordinary meeting of the shareholders in the Standard Oil Company of Galicia was held on Monday, at the Cannon-street Hotel, Dr. Cooke presiding.—The Chairman, after referring to the recent tragic death of Mr. Berry White (the Chairman of the company), proceeded to describe at length the history of the concern and the difficulties encountered in the acquisition of the properties in Austria. He said that there was no doubt that the application to the Austrian Government for the concession would be favourably received. When the directors found that the amount subscribed was not sufficient to purchase the two properties mentioned in the prospectus, the question arose whether the cash should be returned. In the end the board decided to go to allotment, the directors finding they were able to obtain one of the properties on certain modified conditions. After detailing the subsequent negotiations with the Petroleum Proprietary Company, the Chairman said that at the time of the failure of these negotiations it was discovered that the position of the Standard Oil Company was attracting much attention in Austria, and that capitalists in that country, feeling that the collapse of an English company engaged in the oil trade of Galicia would act prejudicially on the industry, and prevent the introduction of English capital in future, were willing to provide the company with capital to the extent of £100,000, taking the equivalent in shares. He claimed that this was clear evidence of the value of the business. The position of the company was curious and anomalous. The directors had ample funds in hand, and promised, so soon as the concessions from the Austrian Government were obtained—to acquire the two properties under conditions far more favourable than those mentioned in the prospectus, retaining a sufficient sum in hand for working capital. The board were unanimous, however, that, taking all the circumstances into consideration, the only fair and proper course was for the company to go into voluntary liquidation. The money subscribed was practically intact.—Eventually it was resolved that the company should be wound up voluntarily.

NEW BALKIS KESTELING (LIMITED).

The statutory meeting of the shareholders in the New Balkis Kesteling (Limited) was held on Tuesday, at Winchester House, E.C., when Mr. H. G. M. Conybeare, who presided, said the shareholders had been called together at the earliest convenient date, because all the directors retired on that occasion, in accordance with the terms of the reconstruction scheme. Since the last meeting a son of one of the directors, Mr. E. R. Conybeare, had examined the property, and in a letter he afterwards sent home he expressed himself as highly pleased with the appearance of the reef under the water level, and was convinced that the permanence of the lode was assured. In view of the present almost prohibitive transport rates the mine had been practically shut down. However, the manager had kept the workings dry in order that Mr. Hoffman, the manager of the Goldenhuis Estate, might have an opportunity of inspecting the property and giving his advice as to the best policy to be pursued in the future.—The retiring directors, Messrs. Conybeare, E. R. Cummins and George Allen, were re-elected, with the addition of Mr. Samuel, the fees being fixed at £275 per annum and a 10 per cent. bonus in any year that a dividend of 10 per cent. is paid.—A vote of thanks to the Chairman concluded the meeting.

KANGARILLA SILVER MINES (LIMITED).

The adjourned ordinary general meeting of the shareholders in the Kangarilla Silver Mines (Limited) was held on Tuesday, at the Cannon-street Hotel, Mr. O. H. Davis presiding, for the purpose of receiving the report of the committee of inquiry, appointed on September 3. The committee, while recognising the advisability of reconstructing the company, regretted that they could not recommend the scheme they proposed—viz., 2s. 6d. shares with a 2s. liability, because not enough shareholders had given their assent to it to make it a success.—Mr. Watson pointed out that unless some scheme was adopted, the shareholders would lose possession of a mine that was known to be a good one.—Mr. Young, who represented the Scotch shareholders, said they agreed with the committee

on the general principles, but thought that the shareholders should be credited with more than 6d. as paid.—After a long discussion, Mr. Young was elected on the committee, and the meeting was adjourned for a further consideration of the matter.

AUSTIN SYNDICATE (LIMITED).

The first annual general meeting of the shareholders in the Austin Syndicate (Limited) took place on Monday, at Winchester House, E.C., when Mr. S. de Lissa (the Chairman), in moving the adoption of the report and accounts said, a very large profit had been made during the year by the flotation of the All Nations Gold Mines. The property was developing very satisfactorily, and the ore in sight. In consequence of the general depression in the market the directors had valued the £1 shares they held in the mine at only 6s. 8d. each. Since the date of the balance sheet the syndicate had taken a one-third interest with the Ramage Syndicate in a New Zealand property called the Evening Star and Kennedy Bay. The terms of the purchase were six months' free option conditional on the purchase of the property.—Mr. R. Benswan seconded the motion, and it was agreed to.

LOMAGUNOA REEFS (LIMITED).

The first annual meeting of the shareholders in the Lomagunda Reefs (Limited) was held on Wednesday, at 15, George-street, Mansion House, when Mr. A. Davidson, who presided, in moving the adoption of the report and accounts, said on account of recent events in South Africa they had not yet been able to do any work on their properties. These consisted of 350 mining claims which had been acquired from the Rhodesia Exploration and Development and the Mashonaland Agency Companies. They believed that these claims had been in the main very carefully selected, having been pegged by the earlier pioneers, who had the choice of the whole country open to them when Mashonaland was first occupied by our countrymen. Their acquisition by the two companies mentioned was in many instances obtained at considerable expenditure, and this company, in turn, acquired them from the vendor companies at a cost of £150 per claim. He desired particularly to emphasise the facts that the payments for the whole of the properties were made entirely in shares at par of this company, not a penny of cash being handed over to the vendor companies, and that no promotion money in any shape or form was paid on the formation of this company. Their policy would be to develop and improve one or two of the properties at a time, and when they were successful with one to hand it over to a subsidiary company before dealing with another. Pending active operations in Rhodesia, the board, while carefully watching the company's interests on the other side, had been giving and would continue to give close attention to the proper investment of their funds in London.—Mr. T. J. Lawrance seconded the motion, and it was agreed to.

MESQUITAL DEL ORO MINING COMPANY (LIMITED).

An extraordinary general meeting of shareholders in the Mesquital Del Oro Mining Company (Limited) was held on Wednesday, at Winchester House, for the purpose of considering and, if thought fit, passing resolutions winding up the company for reconstruction.—Mr. N. F. Roberts, who presided, in moving the resolutions, said that in furtherance of the suggestions which were made at the last annual meeting to the effect that the company should raise some more working capital, negotiations had been opened with the debenture holders, which had resulted in the formulation of the reconstruction scheme embodied in the resolutions before the meeting. Last year a considerable profit had been made, which had been absorbed in the payments upon the debentures and in meeting the royalty due to the royalty certificate holders. Under the reconstruction scheme the debenture holders would take preference shares for their holding, and the royalty certificate holders would be in receipt of a diminished percentage. The result would be a considerable saving to the company, and with the additional working capital which would be provided by the reconstruction scheme, the mine, which in the past had produced bullion to the value of £300,000, would make a fresh start.—The resolutions having been seconded by Mr. E. M. Sweetland, a considerable discussion ensued as to the constitution of the board of the new company, and it was eventually agreed that the directors should retire in a body at the second general meeting of the company. Ultimately the resolutions for reconstruction were carried, it being arranged that there should be a liability of 5s. upon the shares of the new company.—A vote of thanks to the Chairman terminated the proceedings.

RIO TINTO COMPANY (LIMITED).

An extraordinary general meeting of the shareholders in the Rio Tinto Company (Limited) was held at the offices of the company, 30, St. Swithin's-lane, yesterday, when the following resolution, which was passed at a like general meeting, duly convened and held on November 19, 1896, was submitted for confirmation as a special resolution:—"That the Articles of Association be altered by inserting after Article 18 the following Article, namely:—Article 18a. The special resolution whereby any share is sub-divided may determine that as between the holders of the shares resulting from such sub-division one of such shares shall have any preference fixed by such resolution over the other of such shares, and the respective rights attached to such shares respectively shall in all other respects be respectively such as may be fixed by such resolution, and that the profits applicable for payment of dividends on such shares and the capital repayable in respect thereof may be appropriated accordingly."—Mr. Keswick, the deputy-Chairman, presided, and in formally moving the resolution, said he regretted that their Chairman (Mr. Matheson) was not able to be present, having been laid up for the last 10 days with a cold, but he was glad to say he was now progressing favourably.—Mr. McFarland seconded the resolution, and it was carried unanimously.—The Chairman announced that the next meeting, when the details of the scheme will be discussed, would be held on Monday, December 14.

SYDNEY HARBOUR COLLIERIES (LIMITED).

The third ordinary general meeting of the shareholders in the Sydney Harbour Collieries (Limited) was held on Tuesday, at Winchester House, E.C., when Mr. E. T. Ingham, who presided, in moving the adoption of the report and accounts, said he wished the proprietors to understand that the amount of £21,038 due to the vendor was not payable in cash. They had at last decided on the site at Long Cove, the conditions for obtaining the site at Karalla, the one mentioned in the prospectus, not being favourable to the company. Unfortunately, any suggestions made by the company were strongly opposed by the New South Wales Government, because they were interested in adjacent collieries. But when they got to work they would have a very great advantage over any other colliery, as there would be no railway rates to pay. Personally he had every confidence in the undertaking.—Mr. Arthur Wicks seconded the motion, and it was agreed to.—The auditors, Messrs. Lindsey, Jameson, and Haldane were reappointed, and the meeting then terminated.

PUBLICATIONS RECEIVED.

Massachusetts Institute of Technology, Boston. The Course in Mining Engineering and Metallurgy.
"New Review." Edited by W. E. Henley. (London: William Heinemann, 21, Bedford-street, W.C.)
"Knowledge." No. 134. Price 6d.
"The National Geographic Magazine." (Washington: The National Geographic Society. Price 25c.)
"Western Australian Statistics of Gold Output." Price 6d.
"Second Annual General Report upon the Mineral Industry of the United Kingdom of Great Britain and Ireland, for the year 1895." By C. Le Neve Foster, D.Sc., F.R.S., one of Her Majesty's Inspectors of Mines. 8s. 3d. (Eyre and Spottiswoode.)

MINING IN THE UNITED STATES.

Salt in Louisiana.—Auriferous manganese.—Coal in Arizona.—The great Utica Mine.—The gold regions of Georgia.

(FROM OUR OWN CORRESPONDENT.)

NEW YORK CITY, NOVEMBER 24.

ARTESIAN wells have within the last few years come into use along the Gulf coast of Louisiana and Mississippi as the best means of assuring a good supply of wholesome water. The only trouble encountered has been that one cannot be quite sure that he will get from the well. It may be fresh water, or salt water, or even gas. The artesian well on the Magnolia plantation, 30 miles below New Orleans, recently sunk to a depth of 920 feet, gave a magnificent flow of water, which is reported to be 20 feet, but it was very salt water, the strongest brine, far saltier than the ocean. It was abandoned as useless until someone discovered the other day that it sent out some gas as well as salt. A tank was placed over the well, and now the entire plantation, sugar house, and all is supplied with light from this natural gas well.

The frequency with which brine, much saltier than the ocean, has been met with in wells sunk near the Louisiana coast has given rise to the belief that under the greater portion of that coast lie immense beds of rock salt such as are operated at Petit Anse, Avery's Island, and other points. The Gulf of Mexico is much saltier than the Atlantic, in spite of the fact that it has so many large rivers emptying into it, which ought to make it fresher. The theory is advanced that the bottom of the Gulf is a vast bed of salt, or that the evaporation is so much greater than the Atlantic's that it counteracts the effects of the inflow of fresh water.

A curious feature that has characterized the mining news of the past week has been the reported occurrence of gold in connection with manganese in various widely-distant localities. Thus, at Norris, in Montana, a pay streak has been met with consisting of a 2 foot vein of good manganese carrying visible quantities of gold. In the Mojave district in southern California several quartz ledges at Bowers, 5 miles from the town of Mojave, have recently been discovered by prospectors, and have shown considerable quantities of manganese associated with high values in gold and native silver. And in New Mexico, at a place called Kington, 50 miles from Silver City, some miners have just found a 3 foot vein of manganese carrying over 100 ounces of silver per ton in addition to some gold.

Referring once more to what is unquestionably the most important industrial feature of the age, I may mention that the coal deposits of this country are year by year being found to be of greater magnitude, and to cover a vastly wider area than used to be calculated upon. In Arizona, for instance, there are several thousand square miles of bituminous coal in the north-east corner of the territory, just north and east of the Painted Desert region. The mineral crops out in many places, and at one point has a thickness of 23 feet. The San Carlos coal fields lie east of the Painted Desert tract, and extend north-east into Colorado and New Mexico. It comes to the surface in many places, and as far as is yet known there are three distinct seams, two having a thickness of some 4 feet each, while the lowermost is 15 feet. The development of the San Carlos coal deposits has been retarded by the fact that they are covered by the Indian reservation; but surveys are now in progress looking to the segregation of these lands from the Government reserve. Thus, then, if the general principle of central energy stations be adopted, it will be quite a feasible undertaking to supply light, heat, and power to the whole of the great mining region of Arizona; and this in its turn will make practicable the establishment of pumping stations for the distribution of water over the desert, and for the consequent reproduction of the luxuriant fertility that in the days preceding the "civilisation" introduced by the Spaniards characterised the region.

The famous Utica Mine in Calaveras County, California, has been so often reported as sold, that we here in New York do not know whether to believe or disbelieve a current statement to the effect that some Denver parties have at length succeeded in purchasing the property at the price of \$6,000,000. The story of the Utica is an interesting one. The mine is as old as the county, but until recent years it never paid for working. Angels Camp, in the early days of the State, was a rich placer section, and the panning of the surface maintained a large population. The Utica Mine was anybody's property for 20 years, until C. D. Lane drifted to the town a dozen years ago. Several men had wasted money on the property, and the late Senator Fair was one of them. He sold out his half of the mine years ago for \$15,000. Mr. Lane took some of the rock to San Francisco, and submitted it to an old friend, in whose psychic powers he had great confidence, about 12 years ago, and the woman advised him to secure the property at once, as it would be a world's wonder in time. She experted samples of rock for others, and always told the same story. Finally Mr. Lane developed the property till he ran out of funds, and 11 years ago came to a stopping place. His brother, Andrew Lane, and Judge Hewel, of Modesto, had an interest in the mine, and C. D. Lane finally induced Mr. Hayward and Mr. Hobart to purchase their shares, which they did for \$60,000. The new owners took Mr. Lane in as a third partner, and advanced the money necessary to fully develop the mine, and put in \$200,000 before they made it a paying proposition. They knew that the mine could be made to pay, and they made no mistake. For the past 10 years the mine has been running on the Utica rock have hammered away with 120 stamps night and day, and the output has been marvellous. Mr. Lane gave a statement of the business of the company a year ago when he qualified as a bondsman in San Francisco in the Hale and Norcross case. He showed the receipts and expenditures of the mine for every month from January, 1893, to September, 1895. The gross receipts were \$4,154,028.52, and the expenses \$1,289,414.24, leaving a net income of \$2,864,614.28. The share of each partner was \$923,537.42, or an average of \$41,176.87 a month. Mr. Lane said he valued the mine at \$3,000,000. It was brought out in the testimony given in the proceedings that the rock in sight in the Utica Mine will keep the mills running for at least six years, but the foreman of the mine thought the ore would last for 12 years.

The geological department of Georgia has in press bulletins on the gold and clay deposits of that State. Both will probably be out before the end of the year. Professor W. S. Yeates, the State Geologist, is now closing the survey of the gold veins in Lumpkin County. He and his assistants have been over nearly the whole of Georgia's gold field, and the bulletin will be a very thorough description of the gold-bearing area of the State, says the *Atlanta Constitution*.

Professor Yeates recently prepared a synopsis of the gold bulletin. He briefly tells the location of the principal gold veins, and says that Georgia has immense gold wealth. Prior to the discovery of gold in California in 1849, Georgia produced

more gold than any other State in the Union. Many millions of gold have been taken from the veins and placer deposits in upper Georgia. To-day gold mining is being carried on more extensively than is commonly supposed. A great revival in mining is on foot, and the State will soon take important rank among the gold-producing fields.

There are two reasons for the decline in gold mining in this State. The California fever drew thousands of miners from Georgia to the West, and the best skill was thus drawn away. Then the difficulty found in treating the sulphuretted ores handicapped the miners in this State for years, and it was not until the chlorination process was developed and proved to be cheap that deep mining could be prosecuted with profit. Western men and English capitalists are now turning their attention this way, and they are finding favourable conditions. In Georgia there is no such thing as staking out a claim, hence prospecting and developing are very different here from what they are in the west. The mineral rights must be bought or leased here before mining can be carried on. In most instances the owners of mineral properties have not the capital with which to develop, and, therefore, they cannot go to capitalists and show what they really have.

So far as has been ascertained, the gold fields of Georgia lie in certain narrow belts, running north-east and south-west, in the geological formation known as the crystalline belt, which includes nearly all that portion lying north of a line passing from Augusta through Macon to Columbus. The first of these lying just east of the Palaeozoic group, which contains no gold, begins in Fannin County, at the State line on the north, and runs through Fannin, Gilmer, and Pickens Counties. The next begins at the State line in the western part of Rabun County, and, passing through Towns, ends in Union County. The third, which is the best noted in the State, and which is known as the Dahlonega belt, comes into the State well up in the north-east corner of Rabun County, and extends south-westly across the State into Alabama, passing through Rabun, Habersham, White, Lumpkin, Dawson, Forsyth, Cherokee, Cobb, Paulding, Haralson, Douglas, and Carroll Counties, the belt forking in Paulding County, one branch going to Haralson and the other to Carroll. The belt lying next to this on the south-east is known as the Hill County belt. It covers a greater area than any other in the State, and on account of the large deposits of sulphide ore at various places already prospected, it is by no means improbable that its mines will rank among the best in the State. Beginning at the South Carolina line in Habersham County, it crosses the State and enters into Alabama, passing through Habersham, Hall, Forsyth, Milton, Gwinnett, De Kalb, Fulton, Campbell, Fayette, Coweta, Meriwether, and Troup Counties in Georgia. The Southern railway traverses that part of this belt lying between Atlanta and the South Carolina line. A small belt begins next near Carnesville in Franklin County, and passing through Banks and Madison, ends at a point a few miles south-west of Jefferson, in Jackson County. The next belt begins at the State line in Elbert County, and continuing on through Madison, Oglethorpe, Clarke, and Oconee Counties, ends a short distance north-east of Social Circle, in Walton County. What appears to be a continuation of this belt begins at the point of intersection of the county lines of Walton, Newton, and Morgan, and passing through the north-eastern corner of Jasper, and through Newton and a part of Morgan, comes to a stop just within the eastern border of Henry County.

A short belt begins a little north-west of Madison, in Morgan County, and passing through Jasper, Butts, and Monroe Counties, ends near the centre of Pike County. Still another belt begins at the State line in the south-eastern part of Elbert County, and passing through Wilkes, Oglethorpe, Green, and the south-east corner of Morgan, ends in Putnam, a few miles south-east of Eatonton. About 20 miles south-west of where this ends what may prove to be a continuation of this belt begins in Jones County, and continuing through Monroe, Upson, Talbot, and Harris Counties, crosses the line into Alabama. A very important, though short, belt begins just across the line in South Carolina, and passes through Columbia, Lincoln, Wilkes, and McDuffie Counties, ending at a point a little north-west of Warrenton, in Warren County. It is on this line that the celebrated Columbia and Magruder gold mines in Georgia and the Halls Mines in South Carolina are located. Besides these belts a number of small areas occur in several counties, variously located, as follows:—Gilmer, Rabun, Banks, Hart, Carroll, Heard, Warren, Taliaferro, Hancock, Jones, and Bibb Counties. The Southern railway passes through many of the counties mentioned above, and it is the outlet of many of the counties not lying immediately on it. These belts are not usually more than 5 miles in width, though the Hall County belt widens at its lower end to about 12 miles, and they range from 10 to 25 miles apart.

Lumpkin is the most widely known, partly because the old mint was located there. While the mint was operated more than \$6,000,000 was coined there. It is estimated that fully as much gold found its way into the market in other ways as was coined at the mint. It is stated in "White's Statistics of Georgia," an old and reliable authority, that \$28,000,000 in gold had been taken from the mines in the neighbourhood of the Chatahoochee River and its tributaries. Lumpkin is very rich in gold, and so are White and Cherokee Counties. The principal mines in Lumpkin are—the Singleton, the Lockhart, the Bast, the Ivy, the Fishtrap, the Findlay, the Hedwig, the Hand, the Barlow, the Yahoola, the Ralston, the Precher, the Murray, the Calhoun, the Turkey Hill, the Garnet, the Battle Branch, the Betz, and the Josephine.

In White, the Loud Mine is best known, but there are others which have been worked for 50 years or more. The White County ore is free milling, and it runs from \$5 up to \$50 and \$200 a ton, some high and some low grade, of course. White has an abundance of fine ore.

Cherokee claims to have more gold than any other county in the State, and while it does not average as high grade it is high enough to afford a big profit if worked honestly.

One great curse of gold mining in Georgia has been the experiments of companies with insufficient capital. Another thing which has given a black eye has been the practice of freezing out small stockholders. Often it happens that a company will start in and make money from the first. The officers see that they have a good thing, and they proceed to wreck the company, throw it into a receivership, and reorganise with the small stockholders left out. This is a familiar game.

The Creighton is the most famous mine in Cherokee, and is the deepest in the State. Ore is now being taken out at a depth of 500 feet, and the mine is making \$5-50 a ton net on the ore. Forty tons a day are handled. Mr. A. French, of Pittsburgh, is the owner. He has put in a Thiers' chlorination plant, and is treating the sulphuretted ore with great success. Some of the most prominent mines in Cherokee are: The Worley, Rudicil, Sixes, Coggins, Bell, Kellogg, Putnam, and Burch, and Georgiana. The last-named has recently been leased by Englishmen, and is being operated by them.

In Dawson County the Kin Mori Mine, which is owned by Cincinnati parties, the McGuire, Palmer, Shelton, and Church are some of the best known. A supply ditch, 33 miles long, was constructed for the Kin Mori Mine.

A Boston syndicate, with a capital of \$300,000, put up a 10 stamp mill last spring near Villa Rica, at the old Clifton Mine, and the property is said to be doing well. A London company has also gone to work in the same territory, and its ore is said to average \$27 a ton, while picked samples run up to \$250 a ton.

The Royal Mine in Harrison County, operated by Chattanooga parties, Mr. C. E. James, President, represents nearly \$300,000 capital, and the ore averages nearly \$18 per ton, with some assays running up to \$158.

In Forsyth the Dr. Charles Strickland and Little Mines are well known.

Gwinnett has some prospects which are said to be good.

The Buford Company has a fissure vein which bears a good paying quality of ore, ranging from \$5 to \$10.

Very little mining has, so far, been done in the counties of Haverham, Milton, De Kalb, Fulton, Campbell, Fayette, Coweta, Meriwether, and Troup, though there are, doubtless, good prospects in all these counties. In Meriwether County, near Grantville, Mr. John Cross has been operating a mine for several years.

Mrs. Belknap Smith has the most unique mine in Georgia. She has made a great deal of money in McDuffie County mining in hard quartz ore, containing free gold and auriferous sulphides, using a five stamp mill with copper plates coated with mercury to save the gold. The sulphides go off as tailings into the river, and experts say that more gold is lost in the tailings than is saved on the plates, but Mrs. Smith says she prefers to let well enough alone, and does not try to treat the sulphides.

The limit to which placer mines may be worked with profit is too soon reached, and their value too uncertain to make them subjects for large investments, especially by people outside the State; but there is every indication that capital properly invested for development of a large number of veins, which are already exposed, in the various auriferous belts of the State, would receive a fair profit during the development period, and would eventually put Georgia's gold mines on such a footing that their steady output would cause them to rival the best gold producers in the world's history. It is significant that no gold vein of any consequence has ever been mined out in Georgia; mining has invariably ceased when the sulphides have become so stubborn as to make mining by the old method unprofitable. There are now many methods of extracting the gold from the sulphide ores; but the Thiers' barrel chlorination process has given better results when applied to refractory gold ores of the Southern Appalachians than any that has yet been used to any considerable extent. Captain Thiers' guarantees to recover 90 per cent. of the assay value of these ores; and at one of the plants, at least, in this State, from 94 to 97 per cent. of the assay value of the ore is saved. With such a process, the time cannot be far away when plants will be erected to work the old veins, rich in auriferous sulphides, which were abandoned because no process then had been applied to these ores that would save sufficient gold to justify mining them.

NEW ISSUES.

THE KAPAI-VERMONT GOLD MINING COMPANY (LIMITED).

This company, with a capital of £150,000, has been formed to purchase and extend the operations of the Kapaivermont Gold Mine, which, the prospectus states, is a dividend-paying property equipped with machinery and cyanide plant, situated in the Kuaotuna Gold Field (Haoraki district) of New Zealand, comprising an area of 37 acres or thereabouts, and a battery site and allotment of 4 acres 3 rods 20 perches. Mr. Hornibrooke's report of April 25, 1896, states that the Otis mill started crushing in January, 1895, and up to April 4, 1896, had put through 4000 tons of ore (or at the rate of (say) 70 tons per week), from which 7282 ounces of gold was won, equal in value to £15,291 12s. 6d. Advances from the property of September 26 last state up to that date 6480 tons have been crushed, producing 8779 ounces of gold. The directors cabled to the New Zealand Company, who are now in charge of the mine, on November 9 last, asking the following questions:—"Let us know tonnage crushed, ounces yielded, value, cost of working since January." The reply received on November 11 read as follows:—"2985 tons crushed, 3505 ounces, £2 10s. per ounce, cost per ton for mining 11s. 9d. Considerable reduction will be made when I can increase output. In order to facilitate systematic working, part of ore is from old workings old company." It will be seen from the above cables, the prospectus further says, that the mine, with the present inadequate and insufficient machinery, is crushing at the rate of 82 tons per week, giving a net profit for the nine months of £6977 8s. 5d. It seems that poor ore was used from old workings. The object of the present issue is to purchase the Kapaivermont property as it stands, and to provide the additional crushing machinery and appliances as recommended by Captain Argall, to increase the output of gold, as well as to carry out the further works of development recommended by Captain Argall and Mr. Hornibrooke. The reports show that the reserves of ore in sight, apart from further development, are ample to supply the requirements of much larger crushing machinery, and the directors are advised that by erecting additional machinery for the treatment of 180 tons of ore a day the present net profit can be proportionately increased, and that on a safe estimate dividends of from 60 to 70 per cent. per annum can be earned on the capital.

THE MOUNTAIN COPPER COMPANY (LIMITED).

This company has been formed with a capital of £1,250,000, in 250,000 shares of £5 each, for the purpose, as the prospectus states, of "acquiring and working on an extended scale the well-known and remarkably rich copper mines belonging to the Mountain Mines (Limited), situated at Iron Mountain, Shasta County, in the State of California, the smelting works connected therewith, and other extensive property, as well as the entire interest in the railway to the mines; and also the refining works in the neighbourhood of New York, owned by the New Jersey Metal Refining Works (Limited)." Mr. Hague, an expert of standing, who has examined the property, states in his report that "the mine is unquestionably one of great value, unusually well developed, already assured as a source of ore supply, well equipped for operation, fully justifying the requisite outlays for an adequate smelting plant, and promising large profits for a long time to come." With regard to the working of the mines, the prospectus states that, "owing to the favourable position of the mine, high up in hilly country, no sinking, pumping, or expensive timbering of any sort are required; quite unusual facilities, therefore, exist for the cheap production of copper and successful competition with other mines." It is the opinion of some authorities in the metal trade that "in view of the present depleted condition of the copper stocks of the world, the remarkable increase of consumption that has taken place in Europe, and is now likely to take place in the United States of America and elsewhere in connection with the development of electric power, and of the belief that most of the large copper-producing mines are already working to their full capacity, a scarcity of copper and correspondingly high prices are extremely probable." The directors feel confident, therefore, "that large dividends will be earned immediately, and, if reasonable expectations are fulfilled, that they will be readily maintained for many years to come." Amongst the directors will be found the names of Sir Andrew Noble, a millionaire scientist, and chief active partner of the Armstrong Company; Mr. H. Matheson, so well known in connection with copper mining; and for 25 years Chairman of the Rio Tinto; Mr. Cruddas, M.P. for Newcastle, and other eminent business men.

CORRESPONDENCE.

* We wish it to be understood that we do not hold ourselves responsible for, and do not necessarily endorse, the opinions of correspondents. All communications must be accompanied by the names and addresses of the senders, although these need not necessarily be published.

MINING IN VICTORIA.

TO THE EDITOR OF "THE MINING JOURNAL."

Your correspondent in Victoria is doing splendid work in drawing the attention of investors to this field. At the same time I must confess to having received a great shock when I read his glowing account of that Gippsland venture—the Buchanan Proprietary Silver Mining Company. Having tested the ore and examined the mine, it was evident that if the managing director had all the ore he reported, the grade was too low to pay.

Victorian mining has received an impetus such as has not occurred since the early days. The collapse of booms and banks has forced the people back to the gold, and another golden age has begun. Mines practically abandoned are re-worked, new fields opened up, and new mines on old alluvial ground discovered; yet such finds are infinitesimal compared with what Victoria will yet produce. It is true that many of the old mines are nearly worked out, but discoveries are being made daily which more than counterbalance any decrease in the total gold won. Victoria is not alone a field for the capitalist but for the intelligent labourer—with money enough to keep a man for a few months, I have no hesitation in saying that in Gippsland he would stand a better chance of earning a splendid living than in almost any part of the world. Many prospectors I know make from £300 to £500 per annum by opening up surface reefs and picking the crushing stone. Of course, a man has to learn the business and rough it to start with. But there are townships within every few miles, abundance of water and timber, and a healthy climate. Gold is the main and most profitable metal to the present population, but immense deposits of ironstone exist within a few miles of sea shore and within 25 miles from a good harbour. Should any of your readers refer to me I would give full particulars.

Copper, silver, and gold lodes are being worked at Mount Tara; galena and carbonate of lead exist in Devonian limestone at Buchanan, silver sulphide in iron pyrites in large quartz lodes in porphyritic granite at Gilginty (silver 30 ounces, gold 3 dwts., pyrites 5 per cent.). These lodes are lying untested. Barium-sulphate, or heavy spar, also occurs at Gilginty in a very pure state in massive lodes, also carrying a few ounces of silver per ton.

Further on at the Snowy River well-defined lodes of galena occur both in the granite and as contact veins between granite and porphyry. A new mineral, phosphate of cerium (monazite), was brought into me only last week. It is said to occur in abundance in the gravel wash. I have not yet made a quantitative determination, but it contains several of the rare earths, and may prove valuable for the Wollschbach mantle. The gold fields of Bendoc and Benang lie in the Siberia or almost untrodden part of Victoria, and at the extreme east of the colony lies the newly-discovered gold field of Mallacoota. As I have watched this mine from its start, and as we crushed the first parcel of 60 tons from the original mine, some figures as to gold saving may be of interest to your readers. The ore is rubby quartz, containing about 30 per cent. of ironstone (limonite) full of cavities, the cavities being filled with an ochreous clay. The gold contained is exceedingly fine; on crushing we found we saved 30 per cent. of the total gold in the battery and plates, 70 per cent being caught after on concentrators, slimes, separators, or in the sand.

The material formed fully 20 per cent. slimes on being crushed through a 225 screen.

A battery was erected at Mallacoota, but the same results were obtained.

Gold won in battery box and in plates 15 dwts. per ton.

Gold caught in blankets 3 ounces 15 dwts., 8 per cent. of total sand.

Gold caught in tyes 2 ounces 18 dwts., 6 per cent. of total sand.

Gold remaining in sand 2 ounces 15 dwts., 64 per cent. of total sand.

Gold caught in slimes 3 ounces 10 dwts., 20 per cent. of total sand.

Gold escaping, after flowing slowly through a 100 feet settling pit, 2 ounces 10 dwts., 2 per cent. of total sand.

The sand is all being saved for cyaniding. The slimes will be treated by mixing them with the blanket sand and roasting at a low temperature, and then chlorinating them. In this way any trouble with regard to filtration is easily overcome.

After such results on a mine, and also at our plant, which consists of a battery, blanket table, Halley's percussion table, trommel, Frue and Triumph vanners, Spitzkasten, Hancock's distributor and baffle for slimes, and Lubrig vanner, I have no hesitation in saying that the most careful concentration will not effect a separation of gold from gangue in many classes of ore.

New processes, such as the cyanide modification of chlorination processes and application of bromine, will solve many difficulties, but Victorian mining managers are so woefully behind in testing their tailings that not one in 500 does it regularly and systematically. Batteries appear to be running all right, and the managers are confident no gold is escaping. Vanners are put up, and they are expected to do the work of an intelligent being, and "save the gold." Yet probably there are dozens of examples like the Mallacoota, where the tailings go straight into a stream to be lost for ever. I should mention that the Mallacoota ore contained from a trace to 1 per cent. of bismuth; and I suspected tellurium to be present, but never found any.

The articles in your journal re the Zymean process were followed with much interest, but personally I must confess to having been altogether disappointed with results. I tried the action of sulphur chloride on pure gold, with and without salt, on pyrites containing 10 ounces gold and 3 ounces silver per ton, with and without salt, but in no case did I get results that could not be accounted for by a slight excess of free chlorine that may have been present. The fermentation theories put forward are utter nonsense.

DONALD CLARK, B.C.E., Director, School of Mines.

Bairnsdale, October 26.

GOVERNMENT AID FOR THE MINING INDUSTRY OF CORNWALL.

TO THE EDITOR OF "THE MINING JOURNAL."

DEAR SIR,—You kindly inserted my letter on this great national subject in your 1st week's paper, and I have already received from a mining engineer in London most satisfactory and favourable comments on that letter.

To follow my own statements in the letter referred to, I find the West Australian Government has voted £2,500,000 sterling to give a permanent supply of water to the mines at Coolgardie. The works when complete will enable that part of the colony to carry out the full development of all its mineral wealth.

If our colonies see the necessity of expending 2½ millions of money to aid and foster their mining industry, I think our home Government should take up the question of aid for our Cornish mines, and determine on a procedure that bears equal relation to this nation's prosperity, as any expenditure that can be made by Colonial Governments for the same purpose.

The deepest shaft in the world is, I think, the Maria shaft, Przibram, Bohemia, said to be 608 fathoms 2 feet. The maximum speed ever attained in winding is said to be 3000 feet per minute. With guided cages it is, I think, estimated that to draw 2 tons of stuff at this speed will require engines of 400 horse power.

Now, sinking a shaft a mile would represent 880 fathoms, and 272 fathoms deeper than the great shaft in Bohemia.

If you take £200 a fathom to sink 880 fathoms, it will be £176,000, and if 50 per cent. is added to that for the second 880 fathoms, we get for that £264,000, or for a shaft 2 miles deep £440,000.

Now, allowing for all eventualities, one million sterling would put down a shaft in the Caradon Hills 2 miles deep.

This is a small contribution for a paternal Government, when one of the colonies can spend on a mining district to aid its development 2½ millions. This great Government undertaking to lay open deeper bodies of ore would not only re-establish mining in Cornwall, but also mining throughout this kingdom, restoring plenty where now want exists, and prosperity where now exist privation, desolation, and misery.—Yours very truly, Cuddra, St. Austell.

R. H. WILLIAMS, C.E., F.G.S.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—I quite agree with your correspondent, R. H. Williams, Esq., C.E., F.G.S., that the Government should aid by sinking to a great depth below the present deepest workings in a known rich mineral district, and thereby conclusively prove the existence of payable ore. This trial could not be expected to be done by private capital, but immediately the ore is proved in depth there would then be no lack of capital to open out the ground on all sides. It is pleasant to find some of our Colonial Governments are aiding the mining industries in various ways, and I do not see why such a good example should not be followed by our home Government. All mining engineers are satisfied as to the immense quantities of ores waiting the necessary shafts, &c., in depth, and it seems a great pity that we should require to purchase ores from abroad when we have the very ores lying under our feet.—Yours faithfully,

JOHN L. M. FRASER, C.M.E.

16, Hugh-street, S.W.

SIDE LIGHTS ON THE LAW:

Legal Jottings on Cases in the Courts, and on Questions affecting Mining, Railway, Financial, Industrial, and allied Interests.

BY A BARRISTER.

THE regulations made by the South African Republic, which appeared in the *Times* of Thursday last, will not only affect foreigners travelling in the Transvaal, but may have the effect of raising an important constitutional question as to the Status of the Transvaal Republic. The regulations in question are stated to be published by Reuter's Agency at the request of Mr. White, the Consul and representative of the South African Republic, and may, therefore, be taken as authenticated. It may be remembered that I drew attention in this column immediately after the Jameson raid to its legal aspect, and happened to take a view which has been borne out by the subsequent proceedings in the Courts. I also then pointed out that the contention of the South African Republic that the Pretoria Convention of 1881 had been cancelled by the London Convention of 1884 is untenable, and that consequently the suggestion that Her Britannic Majesty is no longer the Suzerain falls to the ground. It appears now that it is the clear intention of President Kruger to raise this question, and it would seem, therefore, a matter for regret that in the prosecution of Dr. Jameson and his colleagues, the position of England with reference to her subject State was not more clearly emphasised. By the Convention of 1881, Her Majesty undertook and guaranteed that complete self-government, subject to her Suzerainty, should, from and after August 8, 1881, be accorded to the inhabitants of the Transvaal, upon conditions of certain Articles which were appended thereto. In pursuance of that Convention the Queen accorded the self-government, and the Transvaal took it at her hands. By the Convention of 1884 other Articles were substituted. The grant and guarantee remained untouched. The conditions upon which it was then held were alone affected. By Article 14 of those new Articles of 1884, "All persons, other than natives, conforming themselves to the laws of the South African Republic will have full liberty, with their families, to enter, travel, or reside in any part of the South African Republic; they will be entitled to hire or possess houses, manufactories, warehouses, shops, and premises; they may carry on their commerce either in person or by any agents whom they may think fit to employ; they will not be subject, in respect of their persons or property, or in respect of their commerce or industry, to any taxes, whether general or local, other than those which are or may be imposed upon citizens of the said Republic." Such are the words of the conditions upon which the South African Republic still hold the grant and guarantee of Her Majesty. The new regulations now issued by the Republic restrict the rights of "foreigners." What meaning is to be attached to the word is not by them defined, nor whether it is to refer to subjects of the Suzerain State. It is probably intended to refer to all persons other than citizens of the Republic. At any rate, the Regulations would seem to be intended to raise the question whether Her Majesty is entitled to and will enforce her power as Suzerain. The Republic may seek to justify their issue as necessary for the purposes of police administration, but they appear, in the absence of information that they have received the sanction of the home Government, to violate the principle of the Article which I have above set out.

A case which shows that we have not heard the end of the "one-man company" case was decided the other day by Mr. Justice Vaughan Williams. A debenture holder of the London Health Electrical Institute (Limited) whose interest was in arrears petitioned to have the company wound up. The company was a "private company," and insolvent, and entirely under the control of persons who were debenture holders and shareholders. The Judge will, in future, in such a case, carefully enquire into the circumstances before he will allow the company to have the benefit of the general rule that an unpaid creditor of a company

which cannot pay its debts is not entitled to an order to wind up, if it is shown that the petitioning creditor cannot gain anything by a winding up order. The learned Judge intimated (and this may be digested by those who, by reason of the decision of the House of Lords in *Salomon's case*, might be encouraged to turn their business into a "one-man company") that if he found that the object was to defeat the creditors of the company, that the sale to the company was at an exorbitant price, that there was no cash payment, and that debentures were issued enabling the vendors to interfere and claim the property, that that might be a ground upon which the validity of the debentures might be impeached, and creditors.

MINING IN CORNWALL AND DEVON:

NOTES ON MINING IN THE WEST.

(FROM OUR OWN CORRESPONDENT.)

THE Mining Association and Institute of Cornwall has been the centre of interest this week, though there was not so large an attendance at its meeting on Wednesday as might have been expected in view of the importance of the gathering. The primary object was the reading of a paper by Mr. Nicholas Trestrail, A.M.I.C.E., who has charge of a large number of the engines of the county, on the subject of the duty of Cornish pumping engines. Probably every engineer is enamoured of the particular type of engine with which he is most acquainted, but the Cornish engine has been the subject of so much criticism, if not abuse, that it is quite refreshing to find Mr. Trestrail warmly defending it, and making a good defence too. The paper was a most exhaustive one, and at the same time included more information within it than has, perhaps, before been put into the same space. The point of it, however, is that there has been no fair comparison between the duty which it is capable of as placed against other types. In taking the duty of the engines as engaged in pumping Cornish mines, no allowance is made for the remarkable nature of the shafts through which some of the pitwork is placed, the extra load that there must be, and the thousand and one disadvantages which there must be in a shaft which is inclined, with, perhaps, two or three turns from north to south, varied, perhaps, by a dip from east to west. Mr. Trestrail pleads warmly for fair play for the Cornish engine, and maintains that the only fair method is by the fixing, by all the associations concerned up and down the country, of some standard system of independent reporting so that all the pumping engines may be reported on the same basis. He argues, and very fairly, that some such test would not only prove of interest to engineers, but would be of very considerable importance to owners who might thus be in a position to determine more accurately the class of engine which would be of most service to them in any particular work that had to be done. We believe the meeting of the Mining Association of Cornwall is not the only gathering at which Mr. Trestrail's paper will be read and discussed, for a Midland society is also to have it before it.

BUT perhaps the matter of more general public interest which came before the meeting was the somewhat sweeping indictment which Mr. C. V. Thomas levelled at the heads of the council. Practically, Mr. Thomas accuses the council of having thrown over all but one of the objects for which the association and institute was brought into existence, and, so far as we can see most of the members of the council as were present, admitted the soft impeachment. We have called attention to the apathy of the association repeatedly in the last 12 months, and it is gratifying to find so influential a mining man as Mr. Thomas bringing the thing home in the way he has done. The one point to which the association has devoted itself—and with such brilliant results that it might well point to that alone as an ample justification for its existence—is the advantage of a scientific education which it has given to the younger generation of mining experts. But that having been now placed on a sound financial basis, the County Council having, since the scheme was initiated, dropped into considerable sums of money for the very purpose, the finances and energies of the association might well be now directed into some other channel with the hope of equally brilliant results, leaving the County Council to find the means for the carrying on of the technical education. Cornwall badly wants money to develop its mineral resources. Those who have money are always willing to invest in any speculation which has a reasonable prospect of success; it is, therefore, the duty of some body which could speak authoritatively to place the public in the possession of the information and figures on which it could base its calculations. The past history of Cornish mining only wants to be put in concise form, and the prospects of a repetition plainly set out to give a powerful lever in the hands of those who may be endeavouring to secure capital for mining operations in the county. The resolution was passed, and the council will no doubt consider in what way it can do more than it has done in the last year or two for "the advancement and encouragement of mining and mine engineering."

THE letter which appeared in *The Mining Journal* from Mr. R. H. Williams, suggesting the carrying out of the pioneer operations by the Government in order to prove the existence, or otherwise, of mineral deposits at great depths, has caused some talk, and while every one would be only too glad to welcome the commencement of such operations, it is extremely doubtful whether Her Majesty's Government would see it in quite the same light. The Government has a habit of putting the glass to the blind eye when it comes to a question of spending large sums of money.

THE rumours as to the alleged intention of Carr Brea and Tincroft directors to stop all stoping operations underground for the present, and to only persevere with the development work, have died out somewhat, but we have a shrewd suspicion that there is still something in the wind. It may not be intended to stop all at once this unremunerative work, but we shall be surprised if some of the men are not shifted from the poorer stopes and put on tribute in the upper levels to work the copper and arsenic which are there.

MESSES. RICHARD and FRIEWALD, of London and Amsterdam, have favoured us with a copy of their table of comparison of the price, stock, and delivery of Banca, Billiton, and Straits tin during the years 1886-1890 inclusive.

NITRATE.—The Permanent Nitrate Committee's public statistical circular contains the following figures respecting nitrate of soda:—1. Total exports to Europe, November, 2,173,000 quintals; loading for Europe, December 1, 1,085,000 quintals; 2. Imports, Europe, November, 77,010 tons; 3. deliveries, Europe, November, 80,000 tons; 4. visible supply, Europe, December 1—stock and about 616,810 tons.

LATEST FROM THE MINES.

The Secretaries of their respective Companies have sent us the following Cables and Telegrams for publication:—

ALASKA TREADWELL.—Cablegram from Alaska reports the clean up for the month of November as follows:—“Period since last return, 31 days; bullion shipment, 21,187 tons; sulphurets treated, 419 tons; gross expenses for bullion there came from sulphurets, \$21,268; gross expenses for period are unable to state.”

ALADDIN'S LAMP.—The following cablegram has been received from the superintendent at the mines:—“Five weeks' return totals 1173 ounces of gold (approximate value £4300)—namely, 203 tons of ore have been crushed, yielding 887 ounces, 4 tons rich crude ore have been shipped, containing 288 ounces. Nine days have been lost from want of water.”

ARMADALE.—The following cablegram has been received from our consulting engineer, Mr. Frank Nicolas:—“Armadale. Winding engine started; going well. Cyanide plant on the mine.”

AFRICAN ALLUVIAL GOLD MINES.—Copy of cable received November 27 from the inspecting engineer now on the mines, who is to give an independent report on the property:—“I have tested the Zambusi pay alluvial, and from my estimate the average yield of gold at per cubic yard about 4 dwts. per ton. The present workings and appliances on the Zambusi claims should wash per month (as an average) pay alluvial, 1250 cubic yards. I have examined the work done and find the amount is in accordance with Niess' reports.”

BALAGHAT MYSORE.—The directors have received the following telegram from the mines:—“225 ounces of gold obtained from 2625 tons of tailings.”

BAKER'S CREEK.—Result of crushing to November 23:—“438 ounces returned gold.”

BENDIGO GOLD FIELDS.—The local advisory board report by cable as follows:—“South Bendigo. Plat finished and commenced to crosscut east to undercut lode. Pick of the lode. Machinery is working well; depth of shaft 216 feet.”

BIG VALLEY CREEK.—The following cablegram has been received from the resident managing director:—“Foreman reports November 20: Have had to suspend work since November 6 in the tunnel preparing for working in the winter. Expect to resume operations on or before November 28.”

BROKEN HILL PROPRIETARY BLOCK 10.—The following cable, dated November 30, has been received by this company's London office from its head office in Melbourne:—“Block declared 1s. per share, payable on December 23. Transfer books close on December 9.”

BROKEN HILL PROPRIETARY.—The London office has received a cable to the following effect:—“The 23rd half-yearly ordinary general meeting of the Broken Hill Proprietary Company (Limited) will be held in Melbourne, January 28, 1897, to receive the directors' report and balance-sheet, and to elect two directors. The retiring directors, the Hon. D. E. McEldy and Mr. John Darling, jun., are eligible and offer themselves for re-election.”

BROOKMAN BROTHERS' BOULDER.—The following cablegram has been received from Kalgoolie:—“Gane shaft, 180 feet level. Have driven a crosscut to the lode in a westerly direction. The width of the lode is 3 feet. Its assay value per ton 2 ounces.”

BURMA RUBY MINES.—We are informed that the result of the mining for the month of November was 36,000 loads washed, producing rubies valued at Rs. 62,000.

BON ACCORD.—The following cable, dated 4th inst., has been received by this company's London office from its head office at Melbourne:—“80 feet level. The width of the lode is 1 foot. Prospects are undoubtedly good.”

CASSEL COAL.—A cablegram gives the output for the month of November as 25,225 tons. There is much difficulty as regards transport trucks, the present supplies not being sufficient to meet requirements.

CHAMPION REEF.—The London office has received a telegram from the mine, dated December 30, giving last month's return of gold as follows:—“7150 tons of stone produced 7003 ounces of gold; 2280 tons of tailings produced 601 ounces of gold; total production for the month, 8204 ounces of gold. Shall arrange to clean up cyanide December 28.”

CHARTERLAND GOLD FIELDS.—Advices from Bulawayo state that work has been renewed by the contractors on one of their properties about five miles east of Bulawayo.

CONSOLIDATED MURCHISON.—Cablegram from the mine:—“Crushed 618 tons, obtained 278 ounces of gold.”

COROMANDEL.—Telegram from the mine, dated December 4, gives last month's return of gold as follows:—“1200 tons of stone produced 890 ounces of gold.”

DARIEN.—The directors have received the following cablegram from the mine:—“Crushed 500 tons, obtained 447 ounces of gold.”—Woolies.

DOLLAR.—The following cable has been received from the mine:—“Started machinery (pumping and winding plant) on December 23; everything working well; a very efficient plant. The main shaft has been sunk to a depth of 143 feet.”

DAY DAWN BLOCK AND WYNDHAM.—This company has received the following cablegram from the general manager at Charters Towers giving the result of the crushing for the month ending the 28th inst.:—“Tons crushed 1320, yield of gold 1287 ounces. Approximate value £4490. Fortnight's expenses £2180.”

FORBES REEF.—A telegram has been received from the mine, stating that the result of the crushing for November was 88 ounces of gold.

GOLDENHUIS MAIN REEF.—Result of November crushing:—“840 tons crushed, yielding 1075 ounces of gold; 200 tons treated by cyanide, yielding 491 ounces of gold; total, 1566 ounces of gold. Profit for the month, £1476.”

GOLDEN ARROW.—The secretary reports receipt of the following letter from Messrs. Bowes, Scott, and Western, contractors for the company's machinery, dated 28th inst.:—“In accordance with your request, we telegraphed to Coolgardie to ask when the erection of the machinery would be completed, and yesterday received a wire, which read as follows:—“Arrow erected complete.” So we trust to hear shortly that the plant is at work.”

GRAND CENTRAL MINING.—The following cable has been received from the mines, giving the return for November:—“Tons of ore milled, 3500; estimated yield, \$90,000. Profits for month estimated at \$58,000.”

GOLCONDA.—Pending the arrival and erection of the new machinery, which are being shipped within the next few days, the mine manager has stopped running the mill, the boiler power available at present being all required for development purposes.

GOOD HOPE.—The following cablegram has been received from the manager at Charters Towers:—“Clean up from 300 tons gave 120 ounces of gold.”

GREAT SOUTHERN TIN AND GOLD.—The following cable has been received:—“Melbourne, November 30: Shipped on the 26th inst., per Warrigal, 1 ton tin and 1. Good progress being made.”

HARMONY GOLD AND LAND.—Under date, Pietersburg, December 2, the company's manager cables:—“Railway permanent survey is finished. Railway crosses our farm Sterkloop from the north-west to the terminus on the south-east boundary of the farm.”

HANNAN'S BROWN HILL.—Extract from the mine manager's report, dated October 28:—“In the mine most of the men are breaking and bagging ore. In the most northerly crosscut where the men are driving north into new ground following the lode the face shows splendid gold day after day.”

HANNAN'S GOLDEN PEBBLES.—The following cablegram has been received from Mr. Geo. Gray:—“The machinery is now running smoothly; pump is now being worked for eight days, lifting about 25,000 gallons daily. Expect mine will be “in fork” in couple days. Shall recommence sinking vigorously to 200 feet. We are evidently in the main water course. Expect to negotiate selling water.”

IVANHOE.—The following cablegram has been received from Melbourne, dated November 30:—“During the past four weeks have crushed 321 tons for a yield of 1129 ounces of gold. Ten stamp mill running ten days.”

KAPANGA.—The directors have received the following telegram from the manager, viz.:—“In the 940, reef is compact and well defined. Ore shows free gold. In the crosscut to the east 900 have intersected leader; very promising. No change in other parts of the mine.”

LION (Mozambique).—Copy of cable received November 27, from the inspecting engineer at Macequece, who is to give an independent report on the property:—“I have examined the Lion Mine, and find the work reported by Niess has been carried out. I recommend you to suspend work on the Lion Mine, pending the receipt of my written report.”

LUCKY GUSS (Cripple Creek).—The smelters' return just received gives the following results for the month of October:—“Ore shipped 276 tons, averaging 1.84 ounces per ton of 2000 lbs.; realised \$10,162.61 gross, \$7052.00 net, against \$4436.54 net for September.”

LADY MARGARET.—A cable, dated December 1, received from Mr. O. J. McCulloch of Messrs. O. J. McCulloch and Co., who has just visited the mine, states:—“Lady Margaret. There is every indication to show that the mine is one of value. Nothing new to report in the mine. Assay results very satisfactory. We are now pumping 2000 gallons of water per 24 hours; demand seems likely to increase. Main shaft is now down 97 feet. Milparinka. Large body of good ore. Think it would be well to sink No. 2. A prospecting shaft water level. This will open up a very fine body of ore. Can be operated at a small cost.”

LONDON AND NEW ZEALAND EXPLORATION.—The company's agents in New Zealand report:—“Bay View. We have three distinct reefs which are being opened up; the largest of these is about 9 feet in width. We are now driving to cut this reef with the intention of testing it at as low a level as possible.”

MARBELLA IRON ORE.—The directors have received the following telegram from the mines:—“Output of ore for November 1469 tons.”

MENZIES CONSOLIDATED.—Cable information to the following effect has been received from Mr. Weekley the manager at the mines:—“Princess Eva lease. Have resumed sinking main shaft. Am sanguine that increased depth will show improvement in value. Proceeding with the erection of plant (machinery).”

MOSMAN.—Cablegram from Charters Towers:—“Wyndham shaft. No. 17 level south is in formation with very thin veins of gold-bearing quartz. No. 16 level south is 120 feet in from the shaft. I estimate the value of the reef at 1 ounce of gold per ton.”

MOUNT LYELL MINING AND RAILWAY.—The following cable, dated the 27th inst., has been received by this company's London office from its head office at Melbourne:—“General meeting held; passed off satisfactorily. W. Jamieson re-elected.” The following cable, dated the 28th inst., has been received:—“During the four weeks ending November 19 a total quantity of 5484 tons of ore has been treated, assaying copper 5.14 per cent, silver 2.06 ounces per ton, gold 0.197 ounces per ton, resulting in the production of 572 tons of converter matte, containing copper 301 tons, silver 15,168 ounces, gold 1140 ounces.”

MONASTERY DIAMOND AND ESTATE.—A cable received states:—“135 loads yielded 15 carats.”

MOUNT MAGNET.—The following cablegram has been received from the general manager, dated December 4:—“Commenced to crush on November 30. Stamps are running extremely well. Clean up fortnightly.”

MYALL'S UNITED.—Translation of cable received from the managing director, Mr. N. M. Cohen, dated Sydney, November 27:—“16,000 tons of ore blocked out and in sight.”—Office note. The company's 40 stamp battery is expected to be running early in the New Year.

MYSORE WEST AND MYSORE-WYNNAAD CONSOLIDATED.—Tank Block. The manager cables the result of crushing for the month of November as follows:—“After a mill run of 434 hours, 1000 tons, 384 ounces of gold.”

NEW GUADALCAZAR QUICKSILVER.—The following cable has been received from the mines stating that the production of quicksilver for the first week after putting the furnace in blast amounts to 1900 lbs., equal 25½ flasks.

NEW CHUM (Bendigo).—“Since last report the winze from No. 7 level, 110 feet east of shaft, has been sunk 24 feet, total depth from level 158 feet. Now opening up No. 2 level where have cut reef; reef is 22 inches wide, and is most promising.”

NUNDYDROOG.—The directors have received a telegram from the mine giving the return of gold for the month of November as follows:—“3950 tons of quartz produced 4003 ounces of gold, 610 tons of tailings produced 82 ounces of gold; total production for the month, 4085 ounces of gold.”

OOREGUM.—The London office has received a telegram from the mine, dated December 3, giving last month's return of gold as follows:—“5820 tons of stone produced 4313 ounces of gold; 4447 tons of tailings produced 633 ounces of gold; total production for the month, 4976 ounces of gold.”

PEABODY AND BERKSHIRE GOLD.—Copy of cable received from the manager:—“Crushed 43 tons, yield 53 ounces gold.”

PAMBULA.—Cable received from manager, under date November 24, states:—“Falkners. Mr. Carne, N.S.W. Government Geologist, reports 555 tons of ore have yielded 6534 ounces. Net proceeds amount to £23,040 after making deduction of shipping and crushing expenses. A continuation of this lode is now being worked in the adjoining Pambula Gold Mine, and a 2 ton sample, going 6½ ounces per ton, has been dispatched per s.s. Oruba.”

PESTARENA UNITED.—Gold return for November:—“517 tons of ore produced 574 ounces of gold, equal to 1 ounce 2 dwts. 5 grains per ton.”

MOUNT HEPBURN.—The following cable has been received from the mine:—“Assays average 2 ounces 15 dwts. per ton.”

SHEBA.—The following cablegram has been received from the general manager for the month of November:—“2950 tons of ore, 3180 ounces; 2200 tons of tailings, 1220 ounces; 101 tons of concentrates, 731 ounces—5131 ounces. The mill has run 19½ days, from the scarcity of water.”

SOUTHERN NEW CHUM (Bendigo).—“Since last report the main shaft has been sunk 22 feet, total from surface 465 feet. Shall commence crushing reef in No. 1 level during current fortnight.”

TOLIMA.—The following cablegram has been received from the superintendent at the mines:—“Estimated November returns, £5200; estimated November profit, £1600.”—P.S. In this return fine silver is valued at 2s. 9d. per ounce.

TIGER (Massi Kesse).—Copy of cable received November 27 from the inspecting engineer now on the mines, who is to give an independent report on the property:—“I have examined the Tiger Mine and find the amount of work reported by Niess has been carried out. It is my opinion the Tiger will prove to be a paying mine, and I recommend that the following drives be pushed on with all speed:—No. 1. The mine work should be carried out on a scale requiring a provision for the next 12 months at the rate of £60 per month.”

WAIHI SILVERTON EXTENDED.—The following cable has been received from Mr. Griffiths, the superintendent of the mine:—“From October 12 to November 23, total amount crushed 1020 tons, value £1490.”

WEMMER.—A cable message was sent to mine asking if the reports to the effect “that the mill had been shut down for want of water, and the south reef was lost” were true, and the following reply cable has been received:—“The reports are utterly false; everything going on well.”

WAIHI GRAND JUNCTION.—The manager cables November 28:—“Grand Junction engine shaft. Crosscut is driven north 15 feet. Waihi West prospecting shaft. Crosscut is driven south 534 feet. Water is increasing and giving trouble.”

WESTERN AUSTRALIAN DEVELOPMENT.—The following information has been received from the consulting engineer, Mr. Frank Nicolas:—“Orotava. This claim continues to open out well, and I think I am not wrong in saying it will be the best mine in which you have an interest.”

WITWATERSRANDT (Knight's).—This company, we are informed, anticipate being able to start crushing with the additional 60 stamps during the month of January.

YALGOO PUBLIC BATTERY.—The following cable, dated November 26, has been received from the company's agents, Messrs. F. W. Proll and Co.:—“There are 10,000 gallons of water in the 24 hours. Water increasing. Pushing the matter forward with all possible speed. Expect to start milling and clean up during the month of December.”

ZEEHAN-MONTANA.—The following cablegram has been received from Hobart, dated November 30:—“Have shipped 205 tons of silver-lead ore containing about 143 tons 10 cwt. of lead, and 20,500 ounces of silver.”

COMPANY FINANCE.

Reports, Balance Sheets, Dividends, &c., of Mining and other Companies.

KADUR-MYSORE GOLD MINES.

The following circular has been sent to the shareholders:—“I have pleasure in informing you that General Cole, Chairman of this company, has arrived at the mines, and, according to present arrangements, will remain in Mysore during the greater part of next year. General Cole is thoroughly acquainted with the Mysore field, having been on the Mysore Commission, and his experience and knowledge of the company's property will doubtless prove of much value to Colonel T. T. Leonard, the company's resident manager in Bangalore. Appended is General Cole's first report under date November 5 last, from which it will be seen that Captain James Rowe, superintendent of the Champion Reef Gold Mining Company, who has already inspected the Adajampur property, will visit this mine again, and also the Tarikeri Mine, in company with General Cole. Captain Rowe will then submit a general report.—General Cole's report, dated November 5:—“I arrived here on the 28th ult., and have had several interviews with Mr. Leonard, and am more convinced than ever of the value of the properties. Captain James Rowe, superintendent of the Champion Reef Gold Mining Company, Kolar gold fields, has inspected the Adajampur Mine, and verified the finding by our superintendent of the reef which Captain Rowe had formerly discovered with visible gold. The returns from the superintendent of the mine, herewith forwarded, will show that a shaft has been commenced to prove this reef. Mr. Grogan states that he had found fine gold both in the quartz and sand. Captain Rowe is anxious to visit the Adajampur Mine again, and then proceed to our Tarikeri Mine, before submitting his report. I hope shortly to accompany him over both mines, and have asked him to let me know how soon he can go.—Hondonna Adit. This adit has been driven 101 feet, and will fathom the large old working known as the Hondonna in the pit of gold.—Hukkidonna adit. This adit is to fathom the other old working which is lower down the hill, and is said to be connected with the Hondonna, and to drain the water from it. The superintendent states that the water in this adit is increasing daily, and that the sound of the blasting in the adit is heard at the mouth of the old shaft or working.—Adajampur Mine. I shall have the quartz sent in by Mr. Grogan assayed. The panning from the streams below Rowe's shaft, or No. 1 shaft, show gold freely.”

WEARDALE LEAD COMPANY.

The report of the directors states that after payment of £500 for rents and royalties for the year, a loss of £800 14s. 6d. The mines have continued poor, with the exception of Boltaburn, which has produced some good ore, and continues to look well; 2698 tons of ore have been raised, and 2744 tons dressed during the year; 2745 tons of ore have been smelted, and the yield from the mill has been 2140 tons 16 cwt. 1 qr. 18 lbs. of pig lead, which realised on sale £23,224 12s. 10d., as against £25,913 14s. 6d. last year. An unusual quantity of dead work has been done at Groverake, Sedling, and Greenlaws; Killhope Mine has also been re-opened, and two new trials made on Lodge Field and Old Falls veins.

JOHNSON MINERS' SAFETY LAMP COMPANY.

The directors of the above company inform us that the third and last issue of 650 ordinary shares of £1 each, offered for subscription to the members only, at a premium of 10s. per share, have been fully applied for and duly allotted.

The usual quarterly dividend of the WAIHI GOLD MINING COMPANY at the rate of 2s. per share, free of income tax, will be paid on December 10, and the warrants for same will be posted on December 9.

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Full particulars of the Leases and other properties, and of the Plant and Machinery, will be furnished on application to the Liquidator, Mr. W. J. LAVINGTON, or to Messrs. SNELL, SONS, and GREENIP.

Tenders should be sent to the Liquidator on or before the 15th day of December, 1896, but the Liquidator does not bind himself to accept the highest or any tender.

W. J. LAVINGTON, Liquidator,

Dashwood House,
New Broad Street, London, E.C.

SNELL, SONS, and GREENIP,
1 and 2, George Street, Mansion House, E.C.,
Solicitors for the Liquidator.

DIARY.

Monday, December 7.

Golden Pah (Hauraki), Winchester House, 12.
Johannesburg Gold Fields, Winchester House, 12.
Linotype, Cannon Street Hotel, 12.
London and Paris Financial and Mining, Win. House, 12.
New Zealand Joint Stock, Cannon Street Hotel, 12.
Northern Transvaal Lands, Cannon Street Hotel, 12.
Sunburst Gold, Winchester House, 12.30.
New Hauraki Gold Properties, Winchester House, 1.
Golden Horseshoe, Winchester House, 2.
British Prospectors, Winchester House, 2.30.
Society of Engineers, Royal United Service Inst., 7.30.
Society of Chemical Industry, Burlington House, 8.
Society of Arts, Adelphi, W.C., 8.

Tuesday, December 8.

United Rhodesia Gold Fields, Winchester House, 12.
Hannan's Star, Winchester House, 12.15.
New Zealand Exploration, Cannon Street Hotel, 1.
New Guadalcazar Quicksilver, Cannon Street Hotel, 2.
Bulawayo Syndicate, Winchester House, 2.30.
Institution of Civil Engineers, George St., Westminster, 8.

Wednesday, December 9.

Cassel Gold Extracting, Merchants' Hall, Glasgow, 12.
Great Gold Zone, Winchester House, 12.
Vogelstruis Estate, Winchester House, 12.
Cumberland Gold, Winchester House, 12.30.
Eaglehawk Consolidated, Winchester House, 12.30.
Lagunas Syndicate, Winchester House, 1.
Tati Blue Jacket, Winchester House, 2.30.
Society of Arts, Adelphi, W.C., 8.

Thursday, December 10.

Wheal Grenville, 7, Union Court, 11.
Eastern Exploration, Winchester House, 12.
Gresham Gold Exploring, Winchester House, 12.
Parral Consolidated, Winchester House, 12.
African Banking Corporation, Cannon Street Hotel, 12.30.
Golden Plum Consolidated, Winchester House, 2.

Friday, December 11.

Sim's Wealth of Nations, Cannon Street Hotel, 11.
South African General, Gresham House, 12.
Tamworth Gold, Winchester House, 12.
Bendigo District Gold Mines, Cannon Street Hotel, 1.
African Gold Concessions, Winchester House, 2.
Weardale Lead, Cannon Street Hotel, 3.
New Chimes, Johannesburg.

Saturday, December 12.

Rand Roodepoort Gold, Winchester House, 11.
Elmore's Copper, Cannon Street Hotel, 12.
North of England Institute of Mining and Mechanical Engineers, Wood Memorial Hall, Newcastle-on-Tyne, 2.

GOLDEN LINK GOLD MINING COMPANY (LIMITED).

An extraordinary general meeting of the shareholders in the Golden Link Gold Mining Company (Limited) was held yesterday, at Winchester House, when resolutions previously passed winding up the company for reconstruction were confirmed, on the motion of Mr. Robert Walker, seconded by General Tweedie.

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LONDON: DECEMBER 5, 1896.

MINING CONDITIONS IN WESTRALIA.

THE critics who condemned the Western Australian gold fields in their early days because of the difficulty of transport, the scarcity of water, and the "patchiness" of the deposits have been answered by the actual results obtained from the gold industry. With what may be termed the technical prospects of the country so firmly established, it is a matter for regret that the expansion of gold mining should be in any degree hampered by external conditions. Yet it seems as if the labour regulations, which apply to mining enterprise in our Antipodean colonies, will militate severely against the extensive investment of British capital which the undoubted richness of the Westralian auriferous deposits would attract. Nor is this drawback confined to Western Australia. In Victoria, the employment of improved methods and machinery is producing a very marked revival in gold mining; and of New South Wales the same thing may be said; and New Zealand is only just beginning to come into its own as one of the very richest auriferous territories in the world. Throughout Australasia industrial enterprises is hampered by the absurdly exaggerated impressions as to the rights of labour which dominate the colonial legislatures. The recent financial crises were in no small measure the outcome of the reckless expenditure upon public works in the interests of the labouring classes. Some prejudice against South African mines as

ment has been excited by the protests made against the unsympathetic treatment meted out to British capital in a country of which the Government is in alien hands. It would be a curious "whirligig of time" if the mining legislation of the Boers were found to be far more favourable to the mining shareholder in England than that of his own able to the mining shareholder in England than that of his own kinsmen in Australia. Yet it must be admitted that in several important respects the gold mining law of the Transvaal compares advantageously with the Governmental attitude towards mining in our own colonies. The attempted "claim jumping" on the Witwatersrand has been repressed, and its perpetrators punished, and the new gold law gives absolute security to all existing mining titles. In Western Australia the democratic feeling makes it the first obligation of the Government not so much to fix the rightful ownership of mines as to prevent any manipulation of property that may effect the encroachment of the working classes. There is not much fault, perhaps, to be found with the principle that the owner of a mining claim should be forced to expend a certain amount upon it in order to become definitely possessed of it. So far as it protects the "sitting" upon properties in order to dispose of them later on at an enormous profit without anything whatever being done to earn it, this regulation may be regarded as in the interest of the mining shareholders, equally as in that of the working miner. But it is unanswerable that the ownership in such a property should be made absolute as soon as the stipulated sum has been expended, and during such period as the claimholders shall continue to work at the mine. And there should also at least be a provisional protection against the encroachments of any outsider during the period within which the sum required to secure absolute proprietary in a mine is being expended. Otherwise there will always exist a fear as to forcible expropriation, which cannot fail to materially hinder the exploitation of the Western gold deposits. The Government ought to find no difficulty in realising that the present elasticity of title is only an advantageous system when mining is carried on as a matter of industrial enterprise. The epoch of the individual digger was, however, long passed away in gold mining, and the condition of successful working nowadays is the lavish expenditure of huge capital. Such an expenditure can only take place when the law gives complete assurance of the capitalist's property. The existing laws are no longer needed as a safeguard against monopoly; they can only serve as an inducement to blackmail. This, however, is not so immediate an impost upon mining enterprise as the exceedingly rigorous labour conditions which at present exist in Western Australia. It is simply a return to the industrial fetterings of the Middle Ages to insist—as the Western Australian Government does—that every mining property shall be worked by a specified minimum of men in proportion to its extent. The present limit of one man to every three acres of land taken up in mining leases might in many cases prove an intolerable burden to a mining company working a low grade property, with not too large a working capital, and everything which adds to the cost of working a mine must be regarded as directly detrimental to the interests of the industry. It would appear to us that there is no reason whatever why such a compulsion should exist at all. A company's own interests will force it to get as much out of its property as possible, and, therefore, to employ as much labour as will prove remunerative. But, even admitting the general justice of the regulation, the British capitalist has the right to ask of the Western Australian Government that it should at least enforce the principle as considerably as possible. At the present time a mining company, working a property covered by several leases, is not permitted to employ all its available labour upon one particular portion, but is obliged to distribute it over the entire property in the proportion prescribed by law. Thus it cannot carry on work upon a payable lode without being compelled to waste money on another which does not pay. This rule not only involves expenditure, for which there can be no hope of a return, but also withdraws a part of the available labour supply from the point at which it could be utilised with profit. Further, to accentuate this stupid interference with the conduct of one's own business, it should be added that men engaged in surface constructional work, such as erecting machinery or carting timber, are not counted as making up the legal number required to be employed upon the mine. It is obvious that the combined effect of these vexatious regulations must be to raise the cost of mining in Western Australia by a considerable percentage above the necessary cost. We are informed that mining operations have been restricted in many instances by the harsh conditions of the Government, and we are assured that a very strong feeling against them exists amongst the capitalists which are most largely interested in Western Australian ventures. For the sake of the full development of what is undoubtedly one of the richest auriferous regions in the world, we can only hope that the West Australian Government will have the wisdom to modify these restrictions upon enterprise in the sense we have suggested.

GOLD FIELDS DEEP.

MUCH interest has been excited during the week by the report of the meeting of the Gold Fields Deep, held in South Africa on the 5th ult. The future prosperity of this concern is dependent upon the payability of the deep levels, and at the present moment deep level mining is a subject which has given, and is giving, rise to much animated controversy. Only a little while back there was general distrust in the future of this class of mining, and but a person here and there could be found whose confidence in it was not shaken. This distrust, however, is gradually making room for half-heartedness, that is to say, that scepticism which is as ready to be led into one direction as in another, with an element of anxiety to believe in the future of deep levels. The public now see their over-haste and folly in condemning them upon the early

failure of the Goldenhuis Deep—a failure which has been satisfactorily explained, and to which, it has been proved, no serious importance should be attached. Apart from this, and apart from the efforts of the Press to educate them up to the point, experts of eminence, among whom Professor BROOKER is the most prominent, have studied the subject, and seeing that they arrive at a similar conclusion as Mr. HAYS HAMMOND and others, the inducement to come round from mistrust to confidence is all-powerful, and the public have, therefore, obeyed it. The report of the directors presented at the meeting of the Gold Fields Deep should greatly support them in this attitude, though, of course, no conclusive evidence is given that the failure of deep level mining is an impossible event. In treating of this subject in previous articles we have argued that the value of deep level properties may be gauged with much accuracy by the value of their outcrops, or, in the words of Mr. HAMMOND, that "a fairly accurate idea of the value of any undeveloped deep level mine can be obtained by taking the average working results of the outcrop mine or mines situated immediately above." In trying, therefore, to predict the probable future of the Gold Fields Deep, we are guided by the positions of the properties in which it holds its chief interests, and the conclusion to which we must come is that that future is highly promising. The deep level companies and claims in which the company is interested are on the dip of the Crown Reef, Crown Deep, the Robinson Company, the Ferreira, Wemmer, Village Main Reef, Jubilee, City and Suburban, Meyer and Charlton, Wolhuter, George Goch, Henry Nourse, New Heriot, Jumpers, Goldenhuis Estate, Simmer and Jack, New Primrose, Glencairn, and Witwatersrand, and as these may all be described as gilt-edged, then from the theory of experts we may infer the success of the deep levels. The Rose Deep will be the first to commence crushing, and the Chairman is hopeful that this will take place next May. According to the reports, the development here is proceeding very satisfactorily, whilst the assays from the latest samples have run over 5 ounces. But, of course, the most important holding is in the Robinson Deep, in which the company holds 300,000 shares out of a total of 400,000. It is hoped that crushing will be commenced here within 12 months, and there is every probability that this mine will yield large profits and dividends. Of the shafts sunk on the property, No. 2 shaft has cut the south reef at 1806 feet, assaying 3 ounces over a foot, and the main reef leader at 1877 feet, assaying 16 dwts. over 15 inches. No. 1 shaft is now down 1991 feet, and is expected to strike the south reef at a depth of 2200 feet, so that the reef will be opened up in both shafts within a month or two from date, and development will be rapidly carried forward. The balance-sheet at September 30 shows that the shares holding consisting altogether of 1,055,803 shares, stood in the books at £772,683, the property interests including 510 claims on hand accounted for £237,302, debtors £9403, profit and loss £6288, cash in hand £254,060. The liabilities were:—Debentures, £500,000; creditors, £8840. The profit and loss account show a total revenue from stand licences, &c., of £13,847, and an expenditure of £5118, leaving a profit on this account of £8728.

LANGLAAGTE ROYAL.

THE mining and financial world has been greatly disturbed this week by the announcement that the Langlaagte Royal has been shut down, "owing to the dynamite and other monopolies," and this has had the effect of again undermining public confidence, notwithstanding the reassuring speech of President KRUGER. But very little importance need be attached to this, and it would certainly be the height of folly to regard it in a serious light. It is true that the Langlaagte Royal is a large property, but it is also a very low grade one, and in spite of monopolies or any other artificial obstacle, Nature herself seems to have placed colossal hindrances against profitable and successful working. Happily, we have before us the report of the annual meeting, held in Johannesburg on October 29, and the information placed before the shareholders, both in the report of the directors and through the mouth of the Chairman, cannot be described as very encouraging. We do not know if the report before us is a *verbatim* one, but it is a full report, and no mention is made there of monopolies or any other oppression on the part of the Transvaal Government. But what we do read is this, in the words of the Chairman:—"I do not profess to be an engineer, but it is perfectly clear from the reports that we have been singularly unfortunate in regard to faults and dykes in what was at one time considered to be the best part of the mine. Now we are informed by the manager that the nature of the ground is such that there are large quantities of reef in broken sections, which, under ordinary circumstances, we can never expect to take out." And this is what the Chairman quotes as the favourable portion of the manager's report:—"It is satisfactory to note that the further the reefs are exploited away from the influence of the broken ground the richer they become. Especially is this noticeable south, or on the overlap of the Nos. 3 and 4 dykes, and we confidently believe valuable sections of ground will be opened out in the eastern and western parts of the mine." And the Chairman went on to say:—"The policy of the company will now have to be that the development be continued as rapidly as possible, and with that development actively pursued we can hope that the predictions of the manager with regard to the reef will be carried out and, by the uncovering of the reef, we might look forward to a better time." In this, we repeat, there is very little encouragement to go on; at any rate, for the shareholders to spend more money, and many might be tempted to say that, far from a calamity, the shutting down of the mine for ever would be a happy event. It seems to have been a very unfortunate mine from the very beginning, and to have engendered great anxiety in the minds of shareholders and directors alike, and it seems on the face of it a happy thought

to shut it down "owing to dynamite and other monopolies." Though a profit was earned on the first year's operations, this has been regularly succeeded by losses, and the only probability we can see, even if monopolies did not exist, would be further losses *ad infinitum*. At any rate, another profit seems far distant, whilst a dividend seems so remote, that the patience of the shareholders would be completely exhausted long before that happy time arrived. The indebtedness of the company amounts to the depressing sum of £204,000 whilst £300,000 has been expended in plant, sinking, and development, with nothing to see for it, the only fruit being "the disappointing results the battery has given up to date." This is not the first time the property has been shut down, for in July, 1895, under the advice of the manager, it was closed for the purpose of development. History is but repeating itself. Such is the Langlaagte Royal, which has caused such a flutter amongst the mining community. It is a property in whose future we have no faith, and our advice to investors is to leave it alone. The only encouragement given to shareholders is in "might be's," and probabilities so we think, if they have any superfluous cash to spare, there are plenty of more promising concerns in which they can invest it.

THE COMING NORTHERN TERRITORY MINING SCHEME.

OUR readers have long been fully aware of the remarkable richness of the northern territories of Australia. We laid before them evidence of this some months ago; in fact, we may say that we were the first to announce the fact long before the general public, and our contemporaries dreamt of it. The evidence that it is an exceedingly rich district has been most convincing, and the only wonder is that it did not long ago attract the enterprising capitalist. It is, however, now introduced to the public under the auspices of the West Australian Joint Stock Trust, the West Australian Gold Fields, the London and Continental Investment Corporation, the West Australian Loan and General Finance Corporation, the West Australian Share Corporation, the Gold Lands Corporation, the Colonial Gold Fields, the Universal Corporation, the "Venture" Group of Syndicates, and several other of the leading West Australian finance companies, who have formed themselves into a syndicate, called the Northern Territories Syndicate (Limited). The scheme already has naturally attracted a vast amount of public attention, and the prospects of the exploitation and working of the territory are regarded with great favour. The directors of the West Australian Joint Stock Trust were the first to have their attention attracted to the phenomenal returns from a large tract of country in the territory, which hitherto had been worked in a spasmodic and unscientific manner by the Chinese. The directors thereupon proceeded to verify the genuineness of these returns by a reference to Government records and official returns, with the result that they immediately secured options upon nearly all the best developed properties. Although only the most primitive methods were employed, the crushings of several tons gave wonderful results, amounting to thousands of ounces per ton, independent of the gold left in the tailings, of which, we are told, there is a vast quantity upon the various properties. No one can deny that this is a great and *bona fide* enterprise, to be regarded more in the light of investment than of speculation, seeing that the prospects of success are most hopeful and encouraging. The richness of the territory is confirmed by reports from eminent and trustworthy authorities, such as Lord KINTOM (late Governor of South Australia), Mr. H. L. BROWNE (Government Geologist of South Australia), Mr. J. V. PARKER (Government Inspector of Mines for South Australia), Mr. W. J. STRETTON (late Chief Warden of the Northern Territory), Mr. J. O. LIDDELL (Mining Expert and Assayer of Bendigo), Mr. TANISON WOODS (late Government Geologist of South Australia), and others. Hesitating, however, to rely solely upon the reports and opinions of these gentlemen, the syndicate decided to send out Mr. J. S. DE MULLER (late Chief of the Mining Department, Siam), and Mr. D. D. ROSEWARNE, F.G.S., M.I.M.E. (late Government Inspector for South Australia, and a name very familiar to our readers) to examine the reefs and report generally upon the district. These reports were considered so highly satisfactory that the syndicate accepted the whole of the purchase consideration in fully paid shares, whilst the full working capital was at once subscribed by the West Australian Finance Corporation to which we have already referred. It is estimated that above £100,000 has already been expended upon the development of the properties, and notwithstanding that they have hitherto been worked in most primitive fashion, the Government returns show that, during the past four years, about £250,000 has been produced from them, despite the fact that the pyritic ores, which are said to be extremely rich, have not been treated. Such, then, is the scheme which has been looked forward to with much eagerness by the investing community, and which, now that it is put before them, is regarded with considerable favour. We cannot but look upon it as an enterprise possessing all the potentialities of great success.

KRUGER ON THE SOUTH AFRICAN SITUATION.

OUR opinion of the mining and political future of South Africa has all along been of a sanguine kind. We have seen, as we have persistently said, no very powerful reason for the great lack of confidence and suspicion which have distinguished the attitude of the public towards the Government of the Transvaal. They have readily put their faith in all kinds of rumours, the majority of which have been of the absurdest description, and which were circulated only in the

There has been very little doing in this section. The Ordinary has fallen with the exception of Oreguna, which have sprung on the yield of nearly 5000 ounces for November. The Ordinary has risen $\frac{1}{4}$ to $3\frac{1}{4}$ s.d., and the Preference $\frac{1}{4}$ to $3\frac{1}{4}$. Mycor has fallen $\frac{1}{4}$ to $7\frac{1}{4}$, and the Champion Reefs $\frac{1}{4}$ to $7\frac{1}{4}$. Coronado has fallen $\frac{1}{4}$ to $7\frac{1}{4}$, and Nundydroog $\frac{1}{4}$ to $8\frac{1}{4}$. Taitapu have risen $\frac{1}{4}$ to $2\frac{1}{4}$, and the New Zealand varieties are down $3\frac{1}{4}$, but other changes in low land varieties are toward. Koonata Reefs have lost 1s. 9d. at 13s. 3d. Kapanga 9d. at 10s. 6d., Waahi $\frac{1}{4}$ at 7, and Waitakauri $\frac{1}{4}$ at 4. In the Charters Towers group Broken Dawn Blocks have risen 6d. to 12s. 6d., whilst Broken Dundees are 1s. down at 6s. 6d. Broken Hills are unchanged at 2s. Mount Morgans have lost $\frac{1}{4}$ at $3\frac{1}{4}$, and Mount Lyell are $\frac{1}{4}$ better at 8s. Wentworths are $\frac{1}{4}$ easier at $7\frac{1}{4}$ with

Albion unaltered at 2½. Copper shares have given way slightly. Tintos have receded ¼ to 2½, Anaconda ¼ to 5½, and Copiapo and Libiola each ¼ to 1½.

STOCK EXCHANGE SETTLING DAYS.
Consols.
Wednesday, January 8, 1897.
MINING MAKING-UP DAYS:
Tuesday, December 8. Thursday, December 24.
MINING NAME DAYS:
Wednesday, December 9. Monday, December 23.
ACCOUNT DAYS:
Friday, December 11. Wednesday, December 30.

OUR SOUTH AFRICAN LETTER.
(FROM OUR OWN CORRESPONDENT.)

JOHANNESBURG, NOVEMBER 9.
THE long expected and eagerly awaited verdict in the Cyanide Case has at last been given, and has met with the approval of all who take an interest in the mining industry.

If very little external demonstration took place, the present state of the market is responsible for it, but the influence of the judgment upon the mining industry will be felt by degrees, not because it is a burden in the way of royalties, but because it has constituted a precedent which may be evoked in other processes which may claim to be original inventions.

The Cyanide Case, which took fully three years to be so favorably settled, must have brought to the two parties an expenditure of at least £75,000 or £80,000. The enormous amount of technical evidence laid before the Court, the reputation of the legal advisers engaged in the case, concur to make the Cyanide Case one of the biggest questions which has ever been brought before a Bench.

The full text of the judgment is certainly one of the most interesting drawn up in cases of patents referring to the use of chemicals, and no doubt it will have an unfavourable influence on the same case upon the appeal, notice of which has been given in the High Court of New Zealand, where an application, it appears, has been refused to amend the MacArthur-Forrest patent. A question which has been roused at once by a correspondent of the Star, and which will have to be dealt with, is the one which refers to the contracts of such gold mining companies which have an agreement with the holders of the MacArthur-Forrest's patent rights for the treatment of tailings.

Each patent rights having been declared null and void, there can be very little doubt upon the validity of such contracts, and I should not wonder that such contracts and their legal standing may be considered lapsed from the time when the action was originally brought.

If my information is right, I may state that it is the intention of the Chamber of Mines to take this matter in hand, and which theory may be upheld by the Court, it is not so difficult after all to say. I do not consider there will be so much conclusion in deciding a matter which is a clear case.

The theories of Mr. Schmitz Dumont, the Acting State Mining Engineer, upon the geological formation of this country, with more special reference to the Witwatersrand, has been received with a good deal of contempt, and Mr. Schmitz Dumont has met with a very hostile feeling and sharp criticism by the local Press; but although considered *une quantité négligeable* the Chamber of Mines instructed some of its members to interview Mr. Schmitz Dumont regarding his personal geological views of this auriferous district.

I extract from the report Mr. Schmitz Dumont's theory, as I suppose it will interest your readers.

"The general theory that the geological character on this side represents the shape of a triangle or anticline, which lies south of the Rand belt, and a saddle or anticline lying north of the Rand, is only correct with regard to the strata of shale, sandstones, quartzites, and dolomite.

"Mr. Schmitz Dumont considered that the pebble reefs are of quite a different character.

"In short, he maintains that the results of his survey proves very strong arguments in favour of the old and now generally discarded supposition that our pebble reefs were originally large river beds. This opinion is supported, in the first instance, by the well-known fact that such beds of pebbles can only be found at the bottom of powerful running rivers, and are never found in a lake, sea, or near the shores of such, or rivers or near glaciers, while sandstones, shales, &c., are deposits of such kind.

"Secondly, by the fact that formations corresponding to the Rand are found in the southern part of the triangle at Pretoria, as well as in the northern part of the saddle near Potchefstroom, as far as the different kinds of shales, sandstones, quartzites, and dolomites are concerned, but no pebble reefs are to be found between the strata when they should be corresponding to the Rand formation."

The Acting State Mining Engineer, in continuing, stated that there would be large pebble beds in some places of the country. The said beds have a width of more than 50,000 feet. But these pebble beds are always found by single river beds. He thinks that the main reef will disappear at a longer distance from its outcrop, and other reefs may take its place, and have the same value (being beds found by the same river).

He further added that the reefs of Heidelberg, Klorkadorp, and Venterskroon, belonged to the same class, and should be regarded as residues of branch rivers.

The deputations of the Chamber of Mines was composed of Messrs. T. S. Curtis and Fred. H. Hatch, who, in reporting their richness, expressed their opinion of Mr. Schmitz Dumont's theory, by calling it extravagant, chimerical, and opposed to the consensus of scientific opinion on these fields. Messrs. Curtis and Hatch called to their assistance the diamond drill and its efficient work, and concluded by stating that, in their opinion, the blanket beds continue to depths greater than it has yet been proposed to mine.

As it appears, theory expressions are now booming, and Professor Becker's report on deep mining is one of the latest optimistic contributions which have been brought forward.

His views are entertained by a large portion of the technical community, and in his sober, practical way, his explanations are very satisfactory indeed.

He considers that a great help to deep mining is insisting on the long time which the proper sinking to reach the deep levels will take; he feels confident that in the meanwhile some economic reforms already suggested may be applied, and by simplifying the actual work, by utilising some new systems of shaft drilling, water pumping, &c., and by obtaining with new treatment a higher percentage of gold from the ores, the deep mining concerns may prove a success.

At a time when deep levels are not exactly in favour, and the market is overstocked with any amount of doubtful concerns, it is agreeable to hear of some optimistic forecasts; however, it is not enough to report; everybody up here who has got some opinion has a report of them that he considers sufficient to prove the value of his property.

PARIS LETTER.

Position of mining investments.—Another slump in Kaffirs.—Competition of English coal.—French capital in Spanish coal mines.—Employment of American mine managers in Westralia.

(FROM OUR OWN CORRESPONDENT.)

ALL classes of mining investments seem to have lost a great deal of the confidence that distinguished them some time ago. The French capitalist is still far from believing that mining securities have had their day, or that the splendid promises held out for mining ventures in various parts of the world are not likely to be realised. But what he does believe is that the market is unable any longer to stand the heavy strain being made upon it to keep pace with the wonderful development of auriferous enterprises, and that many of the leading companies are showing themselves too anxious to spend their money on costly and useless installations instead of laying it out on pure development work. This idea has found expression at the meeting of shareholders in the East Rand Proprietary convened by the Banque Française de l'Afrique du Sud, when the number of investors present represented no fewer than 80,000 shares. They protested vigorously against the proposal of the East Rand directors to compound with the H. F. syndicate, and a committee of five shareholders was formed to examine into the means whereby fresh capital may be raised. It was plainly stated, however, that the French shareholders would not tolerate the expenditure of this capital upon the purchase of new batteries of stamps, but that it must be employed purely for the development of the various unworked claims. It may be mentioned that the consulting engineer to the bank, M. de Lannay, gave a very favourable report upon the auriferous value of the East Rand properties, and expressed the opinion that the concern was capable of realising large profits. Under ordinary circumstances, the possible settlement of the East Rand difficulty through the intervention of the French shareholders would no doubt have had a favourable influence upon the general tone of the market; but, unfortunately, mining securities have been seriously shaken this week by the closing down of the Langlaagte Royal Mine. This cessation of working is the more serious as investors in this country were induced to take a very large interest in the property on the strength of the splendid prospects held out by the banking concerns that placed the shares on the market. The Langlaagte Royal was represented as being one of the richest properties on the Rand, a property that would very speedily be in a position to pay satisfactory dividends. Now that this mine has been closed down, holders of South African securities naturally ask if the other first class properties are able to successfully fight against the drawbacks which are said to be responsible for the failure. Already, indeed, there are rumours of work on other properties being suspended, and it must be confessed that these have created a very unfavourable impression upon the public. As is usual with French shareholders, who go from one extreme to another, they fear that the position on the Rand is much worse than is being made out, and it will need all the resources of the company directors to revive confidence on this side. Of course, it may be taken that this feeling of pessimism will not last for any length of time. No one denies, in the face of the most trustworthy expert opinion, that the Witwatersrand possesses enormous reserves of the precious metal that will largely return to the shareholders in the shape of dividends for many years to come, and when the public sees that its interests are being properly attended by an economical and enterprising policy of development, they will return to mining securities with as much readiness as they at present drop them.

Perhaps the chief element of weakness in the South African mining share market at the moment is the precarious situation of a great many professional dealers. They are no longer able to withstand the constant depression that has been growing for months past, and this week several of them have been obliged to realise and throw considerable blocks of shares on the market. The sales all round have brought down prices to a very low level, and the depression has been increased by the realisations of timid holders who have become frightened at the apparently hopeless state of Kaffirs. East Rands have been steadily dropping, and Gold Fields and Chartereds have also fallen heavily. The decline, however, is particularly noticeable in the purely speculative scrip, and has not taken place to anything like the same extent in the shares usually purchased for investments. Now that the professional operators have liquidated their positions, and sales from this source have ceased, the mining values are being characterised with more firmness, and in one or two cases even they have been quoted up a point or two. The better tone of the past day or two has been further accentuated by the favourable termination of the settlement, when accounts were carried over more readily than had been anticipated. There is thus some hope that quotations will soon begin to improve, though it is probably too much to expect that any permanent recovery will set in until the various Rand companies show better results than they have so far been able to do this year.

The competition of English coal is continually cropping up, and being made the subject of a political move by those members of the Chamber of Deputies who would like to see foreign fuel excluded from this market altogether. They point to the depression of the native coal industry, and to the closing down of mines in the department of the Gard, which they attribute solely to the low price at which English fuel is imported. It is yet difficult to see how they can suggest a feasible remedy for this state of things. Already the railway rates have been reduced with a view of permitting the northern coal to compete with the English in the south-west of France, but the northern coalowners have only benefited to a very small extent from this privilege. It cannot be otherwise, for the coal is mined much more cheaply in England than in this country, where it has to be extracted at greater depths and sent over long distances by rail. The English coal is practically loaded from the mine on to the boats, and as the freights are exceedingly low it can be exported at very small cost. These advantages must more than compensate for any measure that the French may take to compete with the imported fuel. As a case in point, it may be mentioned that not long ago the P. L. M. Railway Company reduced its tariffs on coal from the Gard by 2 francs a ton, and the English shipowners then diminished their freights by 50 per cent. for Marseilles, thus bringing the cost of transporting English coal from 12 francs to 6 francs a ton. So far as economy of extraction and cost of conveyance are concerned, therefore, the French coal owners can have no hope of competing with the imported fuel, any restriction of which, moreover, is condemned by every political economist. The friends of the colliery proprietors are now protesting against the preferential treatment accorded to English coal at Marseilles where the fuel used for outgoing steamers is stored free of charge, while the native fuel is obliged to pay the usual duties. The matter will shortly come up before the Chamber of Deputies, when an attempt will be made to force the Minister to remove this privilege from imported coal.

A good deal of attention is being given just now to the opportunities afforded for the profitable employment of French capital in the development of the mineral and metal resources of Spain. The collieries of Asturias are pointed out as being a specially favourable field in this respect. For years past the profits upon the coal have been from 2 to 3 pesetas a ton, while the average cost of production was 7 to 8 pesetas a ton at the mine. It is held that if the ruinous competition between the various coalowners were to cease, and more economical processes were introduced, the profits could be easily doubled, while it would be possible to compete with English coal, not only at home but in foreign markets. For this, however, it is necessary that the railway facilities should be greatly increased and that the port of Aviles should be properly equipped for the shipment of fuel. The French capitalists have so much faith in the future of the Asturias coal mines that they are assisting a project

for the fusion of all the companies in that province, and should they succeed in doing so steps will be taken for developing the mines on a large and economical scale.

With reference to the controversy that has been going on in these columns for some time past concerning the employment of American and German mine managers on auriferous properties owned by British companies abroad, the following extract from a letter addressed by a mining engineer, Mr. A. E. Ritchie, to the Paris edition of the *New York Herald*, may be of interest:—"It may interest you to learn that most of the leading mines in Western Australia are under the management of American engineers, and their number is being continually added to, it being generally recognised that, notwithstanding the length of time the Australian colonies have been actively mining, they are far behind America both with regard to machinery and mining generally. To my personal knowledge the following Westralian companies are under the charge of managers from the States—viz., Great Boulder, Lake View Consols, Consuelo, Miner's Dream, Pilbarra United, Paddington Consols, Wealth of Nations, Golden Crown, and many others whose names do not occur to me at the moment."

THE METAL MARKETS.

THE METAL MARKET, LONDON, DECEMBER 4.

Copper.

THE speculative markets for G.M.B.'s has passed off very quietly this week, and the lack of strength in American advices, together with the slackness of consumptive buying, induced lower values, whilst restricting the turnover. On Monday business was done at up to £49 2s. 6d. s.c. and £49 15s. three months G.M.B.'s, but the operation of the above depressing elements was perceptible in Tuesday's prices, these at the close being £48 18s. 9d. s.c. and £49 7s. 6d. three months. Wednesday witnessed a further decline—viz., to £48 13s. 9d. cash and £49 5s. three months, and on Thursday, the lowest for the week was attained—viz., £48 10s. spot and £49 2s. 6d. three months. To-day the tone improved, and business took place in three months, G.M.B.'s at £49 2s. 6d. to £49 7s. 6d., and s.c. at £48 11s. 3d. to £48 15s., the market closing firm at £48 15s. to £48 17s. 6d. s.c., and £49 7s. 6d. to £49 10s. three months.

Tin.

has been a remarkably steady but featureless market this week. Business has been of the smallest, and prices have ruled at £58 2s. 6d. s.c. Straits and £58 17s. 6d. to £59 three months throughout the week. To-day was again very dull with only about 50 tons changing hands, and we closed a shade firmer with sellers at £58 7s. 6d. s.c. and £59 5s. three months. In the Dutch market there has also been but very little variation of values, Billiton spot being alternately quoted at 35½ fl. and 35 fl., with three months, at ½ fl. higher. The close is at 35½ fl. spot and 35½ fl. forward Billiton, whilst spot Banca closes at 35½ fl.

Lead.

has fallen away, demand being small, and values lower. The close is flat at £11 10s. to £11 11s. 3d. soft foreign, and £11 12s. 6d. to £11 15s. English.

Spelter.

is likewise quieter, and the falling off in demand is reflected in the slightly lower values, the close being at £17 12s. 6d. to £17 15s. ordinaries, and £17 15s. to £17 17s. 6d. specials.

Antimony.

steady at £29 10s. to £30.

Quicksilver.

steady at £6 12s. 6d. firsts, and £6 11s. seconds.

The following are to-night's (December 4) prices of metals:—

	Copper	£ s. d.	£ s. d.
Tough cake and ingot	...	51 15 0	52 5 0
Best selected	...	52 0 0	53 0 0
Electrolytic Copper	...	53 0 0	55 0 0
Sheets and sheathing	55 0 0
Flat bottoms	53 0 0
Chill bars	49 10 0
Good merchantable	49 10 0
Copper tubes, seamless	0 0 8½
Alloys			
BRASS: Wire	0 0 6½
" Tubes (solid drawn)	0 0 7
" Sheets	0 0 4½
PROOF BRONZE: Alloys II.
" III. or	81 0 0
" VII.	83 0 0
" XI.	78 0 0
" Vulcan brand A1	72 0 0
DWARF METAL	72 0 0
BULL'S METAL	65 0 0
Perforbrone (Vivian's)			
Ingots	...	0 0 6½	...
Ordinary sheets, plates, bolts and bars	...	0 0 7½	...
Steeled bolts and nuts	...	0 0 8½	...
Pump rods, plain	...	0 0 7½	...
" finished	...	0 0 10½	...
DELTA METAL: No. 4 (per ton)
" Sheets and plates (per lb.)
" Bars, round, square, flat (per lb.)
" hexagon (per lb.)	75 0 0
Tin			
English, Ingots, f.o.b.	...	62 5 0	62 10 0
" bars	...	63 5 0	63 10 0
" refined	...	61 5 0	61 10 0
Straits, spot, and three months respectively	...	58 7 6	59 5 0
Australian, spot, and three months respectively	...	60 0 0	60 17 6
Banca	69 10 0
FIN PLATES: Charcoal, best quality	...	0 11 6	...
" ordinary	...	0 11 0	...
" Coke, best quality	...	0 10 9	...
" ordinary	...	0 10 3	...
These prices of tinplates are f.o.b. at Swansea; at Liverpool 6d. per box more.			
Iron			
Fig. G.M.B., f.o.b., Clyde, spot	2 8 0
" Scotch pig, No. 1 Gartherris	2 13 0
" " Coltness	2 14 0
" " Clyde	2 11 0
" " Govan	2 10 0
Bars, Welsh, f.o.b. Wales	5 15 0
Plates	6 15 0
Bars, Staffordshire, at works	5 10 0
Sheets	6 0 0
Plates	6 14 6
Hoops	6 0 0
Ship plates, Middlesborough	5 15 0
STEEL: English spring	10 0 0
" cast	4 5 0
" Rails at works, according to section	8 0 0
Lead			
Spanish or soft foreign	...	11 10 0	11 11 3
English pig, common	...	11 19 6	11 19 9
" L.B.	18 5 0
" sheet and bar lead	12 15 0
" pipe	13 5 0
" red	14 10 0
" white	17 10 0
" patent shot	15 8 0
Spelter			
Silesian ordinary brands	...	17 12 6	17 15 0
" special brands	...	17 15 0	17 17 6
English Swansea	...	18 5 0	18 7 6
Sheet Zinc	...	20 5 0	20 10 0
Antimony			
Antimony	...	29 0 0	29 10 0
Quicksilver			
Flasks, 75 lbs. warrants	...	6 11 0	6 12 6
Ore, s.s.f., U.K. ports	per unit:
1st quality, 10 per cent. and upwards	...	0 0 11	0 1 1½
2nd " 47 per cent. to 50 per cent.	...	0 0 10	0 1 1
3rd " 40 " 47 per cent.	...	0 0 8	0 0 11
Aluminium			
20-90½ per cent.	...	Per lb.	Per lb.
98-99 per cent. guaranteed	...	0 1 4	0 1 4

"THE MINING JOURNAL" SHARE LIST.

AUSTRALIAN AND NEW ZEALAND MINES.

Name	Closing Price, Dec. 4, 1896	Closing Price, Nov. 27, 1896	Am't. of Share	When last X'd and Dividend	Called up per Share	Amount of Stock or No. of Shares Issued	Situation of Mine	Head Office
Aladdin's Lamp G	2 3/4	2 3/4	1 0	2/ Sept. 30 '96	1 0 0	100,000	L'An N.S.W.	4-5, Throg. Avenue, Worcester House.
Angle-Crest Corp	3 1/2	3 1/2	1 0	10/2 '95	1 0 0	100,000	W. Austral	3, Princess Street.
French Exp	3 1/2	3 1/2	1 0	3/ Sept. 30 '96	1 0 0	100,000	N. Zealand	30, S. Swithin's Lane
Ger. Explor.	3 1/2	3 1/2	1 0	5/ Oct. 20 '96	1 0 0	100,000	W. Austral	4, St. Winchester St.
Archa	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Arrow Brownhill G	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Asso. Gold Mines	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Australasian	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Aus. Bro. Hill Con.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Baker's Creek	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Bamboo Queen & R	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Bayley's Reward G	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Big Blow	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Black Flag Consol.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Black Prop.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Blagrove Freshd.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Blue Spur and G.G.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Bonnie Dundee G	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Brilliant	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Black G.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
St. Geo. G.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Brit. Brok. Hill S	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Broken Hill Prop.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Brownhill Prop.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Burbank's Bird's E	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Central Hill G	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Central Boulder	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Exp. & Invest.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Charters Tow.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Colonial Financ.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Gold Fields	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Con. G. M. of W. A.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Murchison	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Conti. & W. A. Trust	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Coolgardie Gold	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Alit & L.K.G.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Croesus So. United	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Crown United	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Day Dawn B. & W. G	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
P. C. G.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Eagle's Nest	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
East Hauraki	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Explores Synd.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Fingall's Extd	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Florence	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Gibraltar Cons.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Gladiator	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Glenrock	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Golden Cement G	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Crown G.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Gate	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Horse Shoe	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Link	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Plum	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Gold Estates	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Great Boulder	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Junction	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
St. Geo. G.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Fingall's Extd	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Graham Synd.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Hainault	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Hampton Gold Flds	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Gold Hill	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Plains	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Plains Ex	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Hannan's Brown Hill	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Devel'pmt	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Main Reef	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
North	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
100 Acres	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Oroya	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Prop.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Reward	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Star	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Hauraki	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Herbert Gold	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Mit or Mine	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Idaho	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Kaboonga	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Kalgaru	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Kalgaru	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Kathleen	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Crown	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Kintore	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Komata Queen	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Keels	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Kurauni Caledon	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Kurauni	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Lady Loch	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Shenton	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Limerick	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Ln. & Con. Invest.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Lon. & Globe Fin.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Londonerry	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
L. W. Aust. Expl.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Lon. W. A. Invest.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Mainland Cons. G	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Mawson's Reward G	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Gold Reef	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
(O'Driscoll)	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Mills Day Dawn G	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Mosman	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Mount Lyell	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Mount Margaret	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Morgan G.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Howe	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Murchison N. Chm	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
N. Hauraki Prop.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Queen	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
E. Jubilee	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Norseman	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
North Boulder	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Coolgardie	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Kalgaru	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Omnium G.M. Assoc	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Paddington Cons.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Pambula	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Pilbarra G. F.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Precess Pt. Prop.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Ramage Syndicate	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Royal Oak	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Sovereign	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Sherlaws	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Scottish Australian	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Scott's Hauraki	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Southern Star	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
South Kaigaru	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Stray Shot & Reel	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Succow	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Taitapu G. Reate	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Taratu Creek	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Thames Hauraki	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Tokates of Hauraki	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Town Prop. of W. A.	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
Triumph	3 1/2	3 1/2	1 0	—	1 0 0	100,000	W. Austral	1, Queen Victoria-st.
True Blue	3 1/2	3 1/2						

"THE MINING JOURNAL" SHARE LIST—(Continued)

ABBREVIATIONS AND REFERENCES.—The following are the significations of the abbreviations and references which occur in the Share List:—A, Antimony; As, Arsenic; B, Blende; Br, Borax; C, Copper; D, Diamond; G, Gold; I, Iron; L, Lead; M, Manganese; N, Nitrates; P, Phosphates; Q, Quicksilver; R, Ruby; S, Silver; S.S., Silver-lead; Sul, Sulphur; T, Tin; and Z, Zinc. * in the "Amount of Share" column of British Mines signifies that the mine is conducted on "Cost Book" principles; † in the "Head Office" column of African Mines signifies that the address given is not that of the head office but of a sub, or transfer office; and ‡, following the names of African Mines, signifies that they are subject to the Limited Liability Law of the South African Republic.

The following is by far the most complete and comprehensive list of mines, in whose shares business is being currently transacted, published. Additions will be made from time to time as occasion requires. Every effort is made to ensure accuracy, and Secretaries of Companies, Share Dealers, and our readers generally, are cordially invited to co-operate with us to this end, by notifying us of any errors that may at any time occur. We desire it to be understood that while our Share List will almost invariably be found correct, we do not hold ourselves responsible for any loss or inconvenience that may arise from possible inaccuracies.

AFRICAN MINES.

Name.	Closing Price Dec. 4, 1896.	Closing Price Nov. 27, 1896.	A n ^o . of Share	When last Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
Adams & Co. Reefs Ad								

The SUBSCRIPTION LIST will CLOSE for both TOWN and COUNTRY on or before MONDAY, DECEMBER 7.
A DIVIDEND-PAYING PROPERTY.

The Kapai-Vermont Gold Mining Company, Limited.

KUAOTUNU (HAURAKI DISTRICT), NEW ZEALAND.

INCORPORATED UNDER THE COMPANIES ACTS OF 1862 TO 1893.

CAPITAL

£150,000,

In 150,000 Shares of £1 each, of which 40,000 are accepted by the Vendor in part payment of the purchase money, and the remaining 110,000 ARE NOW OFFERED FOR SUBSCRIPTION.

Payable, 1s. per Share on Application; 4s. per Share on Allotment; 2s. 6d. per Share on December 15; 2s. 6d. per Share on January 4, 1897; and 5s. per Share on February 4, 1897; and 6s. per Share on March 4, 1897.

DIRECTORS.

Sir THOMAS S. TANCRED, Bart., Director West Australian Development Corporation, Limited, Chairman.
Brigade-Surgeon Lieut.-Col. E. C. BENSLEY, Director Tokatea Consols Gold Mines, Limited.
H. CHESTER MASTER, Esq., Director Aladdin's Lamp Gold Mining Company, Limited.
D. K. INGLIS, Esq., Director Turon Gold Mines, Limited.
J. J. HAMILTON, Esq., F.G.S., Mining Engineer, Director Mount Hepburn Gold Mine, Limited, Managing Director in London.

CONSULTING ENGINEER.

Captain W. H. ARGALL.

BANKERS.

BANK OF NEW ZEALAND, 1, Queen Victoria-street, London, E.C.

SOLICITORS.

For the Company: Messrs. WAINWRIGHT and POLLOCK, 43, Bishopsgate-street, Within, London, E.C.

For the Vendors: GEORGE M. LIGHT, Esq., 32, Victoria-street, Westminster.

SECRETARY AND OFFICES.

J. WHITTAKER, 1, St. Helen's-place, London, E.C.

PROSPECTUS.

This Company has been formed to purchase and extend the operations of the Kapai-Vermont Gold Mine, a dividend-paying property equipped with machinery and cyanide plant, situated in the Kuaotunu Gold Field (Hauraki District), of New Zealand, comprising an area of 37 acres or thereabouts, and a Battery site and allotment of 4 acres 3 rods 20 perches. The reports issued to Shareholders of the existing local Company in 1895 and 1896 have been independently confirmed by Captain W. H. Argall and by the Manager, Mr. Robson.

Mr. Hornibrooke's Report of April 25, 1896, which is confirmed by Captain W. H. Argall in his Report of May 9, 1896 (copies of which reports accompany the prospectus) states that THE OTIS MILL STARTED CRUSHING IN JANUARY, 1895, AND UP TO APRIL 4, 1896, HAD PUT THROUGH 4,000 TONS OF ORE (OR AT THE RATE OF, SAY, 70 TONS PER WEEK), FROM WHICH 7,132 OUNCES OF GOLD WAS WON, EQUAL IN VALUE TO £1519 12s. 6d.

Advices from the property of September 28 last, state up to that date 5,480 tons have been crushed, producing 5,773 ounces of gold.

The Directors cabled to the New Zealand Company, who are now in charge of the mine, on November 9 last, asking the following questions:—
"LET US KNOW TONNAGE CRUSHED, OUNCES YIELDED, VALUE, COST WORKING SINCE JANUARY."

The reply received on November 11 read as follows:—

"2,485 TONS CRUSHED, 3,505 OUNCES, £2 10s. PER OUNCE. COST PER TON FOR MINING 11s. 9d. CONSIDERABLE REDUCTION WILL BE MADE WHEN I CAN INCREASE OUTPUT. IN ORDER TO FACILITATE SYSTEMATIC WORKING, PART OF ORE IS FROM OLD WORKING OLD COMPANY."

It will be seen from the above cables that the Mine with the present inadequate and insufficient machinery is crushing at the rate 82 tons per week, giving a net profit for the nine months of £2977 8s. 5d. It seems that poor ore was used from old workings.

The object of the present issue is to purchase the Kapai-Vermont Property as it stands, and to provide the additional crushing machinery and appliances as recommended by Captain Argall to increase the output of gold as well as to carry out the further works of development recommended by Captain Argall and Mr. Hornibrooke.

The reports show that the reserves of ore in sight, apart from further development, are ample to supply the requirements of much larger crushing

machinery, and the Directors are advised that by erecting additional machinery for the treatment of 150 tons of ore a day, the present net profit can be proportionately increased, and that on a safe estimate dividends of from 80 to 70 per cent. per annum can be earned on the capital.

The Mine is well-known, and acknowledged to be one of the best in the district. Mr. Henry M. Cadell, B.Sc., F.R.S.E., F.G.S. (Vice-President Mining Institute of Scotland), who inspected the gold fields of New Zealand, states in a paper read by him before the members of The Mining Institute of Scotland, at Kilmarnock, on December 7, 1895:—

"Kuaotunu.—The Kuaotunu Gold Field has as yet been comparatively little prospected, but it is at present yielding satisfactory results to the Companies that can treat the ore on a good system. There are several reefs, the best of which—the Try Fiske—runs in a north north-easterly direction past the eastern side of the Kuaotunu township.

"The best reef runs through the property of the Try Fiske and the Kapai-Vermont Companies, and these mines deserve special mention on account of the merits of their system of treatment of the ore, and of the success with which their operations have been attended.

"The Kapai-Vermont Company treat their ore by dry crushing in an Otis mill and direct cyanidation as at Waihi, and this system appears to be working with most satisfactory results, about 90 per cent. of the assay value of the ore being extracted."

Attention is invited to the reports accompanying the Prospectus.

In a telegraphic report received and made on behalf of this Company, Captain Argall states that the lode was struck in the lower level on April 30 last, which greatly enhances the value of the property. In confirmation of this statement, Captain Argall cabled through the manager, under date July 9, as follows:—

"Kapai.—In my opinion Mine will develop into a fine property, am convinced there is a brilliant future before the Company. I have great reasons for supposing at the lower level and deeper levels the richness of ore will increase greatly."

An extract from a cable received from the Manager, November 17, states that the slopes above the lowest level are now producing large quantities of ore of good quality, varying in width from 7 feet to 8 feet. The Chairman of the New Zealand Company states that the mill value of the ore in lowest level will average over £4 per ton.

The ores are being successfully treated by the process now in use at the Mine, and the percentage of Gold extracted is high, 90 to 93 per cent. (vide James

A. Walker's Report, September 2, 1895). The district is well timbered, there is a sufficiency of water, a good stream flowing past the mine, coal can be delivered at the mine at a cost of 12s. per ton, and as the climate is favourable, work is carried on all the year round. Labour is abundant and cheap, and the general conditions for working the mine are extremely economical.

The port of Kuaotunu—a regular port of call for steamers from Auckland and the town of Thames—is about three miles distant from the mine, which are approached by a good metalled lode.

At the town of Thames there are well-equipped engineering works, which afford excellent facilities for the manufacture and repairs of mining machinery. A contract dated October 26, 1896, has been entered into between the Kapai-Vermont Gold Mining Company (no liability) of New Zealand, as Vendor, of the first part, Sydney Harry Johnson, of the second part, and John Whittaker for this Company, of the third part, for the purchase of the property described for the sum of £125,000, of which £45,000 is payable in cash, £40,000 in fully paid shares, and the balance in cash or fully paid shares, or cash and fully paid shares, at the option of the Directors, leaving £40,000 to provide additional working capital.

The above is the only contract to which the company is a party.

The Promoter has made arrangements and entered into contracts with various persons for assistance in the promotion of the Company, and in regard to the expenses thereof, which may constitute contracts within the meaning of the 38th Section of the Companies Act, 1887. Applicants for shares shall be deemed to have notice of all such contracts and arrangements, and shall accept the above statement as a sufficient compliance with the requirements of the aforesaid Section.

The Contract dated October 26, 1896, above referred to, the original Reports, Cables, and copies of the Memorandum and Articles of Association, may be inspected at the Office of the Company, No. 1, St. Helen's Place, London, E.C.

Applications for shares may be made on the form accompanying the Prospectus or by letter, to be sent to the Bankers or Secretary with the prescribed deposit. In case no allotment is made the deposit will be returned without deduction, and when the number of shares allotted is less than the number applied for the surplus will be credited in reduction of the amount payable on the shares allotted.

Prospectuses and Forms of Application can be obtained from the Bankers or the Secretary of the Company.
London, November 28, 1896.

THOMAS SMITH & SONS OF SALTLEY, LIMITED,
BIRMINGHAM.

Manufacturers of Drop Forged Engines and other Steamers, Drop Forgings, Band Forgings, Presses Work and Machine Work of every Description; Millwrights; Heavy Edge Tools, Heavy Steel Toys, Tools for Engineers, Plate Layers, Miners, &c.; Coach and Railway Wrenches, Spanners, Picks, Eye-bolts, Bolts, and Nuts.

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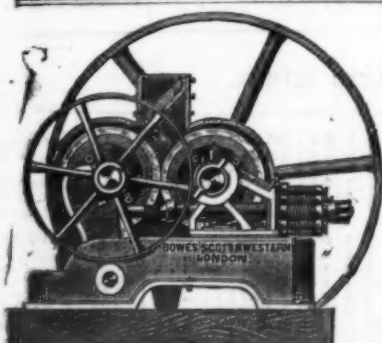
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A SPECIALITY IN MINERS DRILL AND JUMPER STEEL WEDGES AND HAMMERS.

ONLY GOLD MEDAL FOR ALLOYS,
INVENTIONS EXHIBITION.

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The Best Alloys for all Wearing parts
of Machinery, Bearings, &c.

BULL'S METAL, Ingots, Forgings, Castings, Stampings, Rods and Sheet.

The Phosphor Bronze Company
(LIMITED).
87, SUMNER STREET, SOUTHWARK,
LONDON, S.E.



OFFICE:
Broadway Chambers,
WESTMINSTER.
Telegraphic Address: "DONBOWES."

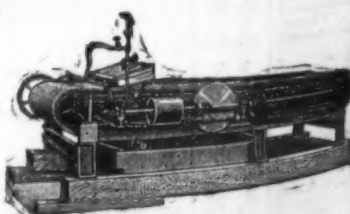
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ENGINES SINGLE & COMPOUND, BOILERS OF ALL KINDS, TURBINES, &c.

SOLE LICENSEES AND MANUFACTURERS OF
"Patent" KROM ROLLS.
FOR FINE CRUSHING.
ASSAYS CONDUCTED
BOWES SCOTT AND WESTERN (LIMITED).



SAMPLING WORKS,
Phoenix Wharf,
Church Road,
BATTERSEA

GOLD MINING IN ONTARIO.

(FROM OUR OWN CORRESPONDENT.)

As a result of the recent discoveries in Ontario, it may safely be said that, within a year or so, there will be millions of dollars added to the world's supply of gold. This is not alone my opinion, but the honest opinion of mining experts of years of experience, who have made gold mining a profession and a study.

Such being the case, a point to be considered is from whence is the capital to be obtained for the successful development of the mines? The people of Ontario have contributed only a small proportion of the money requisite for the proper development of the mines, and, if they will not embrace the opportunity of sharing by judicious investment in the enormous wealth of the province, it must be upon American, British, and other foreign capital we must rely for the opening up of the gold mines. Many of the ventures that have been floated must come to grief, not because the properties are worthless, but because the necessary capital for their proper development will be forthcoming. What a splendid field for safe investment is here offered to the surplus capital of England. There are no risks to contend with as in the Transvaal, neither is a "Jameson's raid" possible in Canada. One can depend upon getting fair treatment and the security of all the rights of citizenship here. The short distance from the "Mother country" affords to directors and others interested in mining an opportunity of visiting the properties, and if desirous of combining pleasure with business they may witness some of the most delightful scenery unequalled in any other part of the world. Splendid fishing may be had in any of the numerous streams, and with regard to shooting—we have no lions, tigers, or elephants, it is true (in fact, we have no use for them), but deer, partridge, duck, snipe, and woodcock abound, and in many of the towns partridge is so plentiful that they form an everyday item on the bill of fare.

Within the course of the next year or so there will be hundreds of stamp mills erected in the gold districts of Canada. Much of the machinery used in the mining industry is made in Canada, and the greater portion comes from the United States. Considering that there is an abundance of iron, plenty of skilled labour, and, above all, a good market, I cannot see why the whole of the machinery required to develop the mines cannot be made in Canada. There has not been much demand for this class of machinery hitherto, but conditions have changed during the past year or two, and the present affords a splendid opportunity for business men to turn their attention to the establishment of a profitable industry. English manufacturers of mining machinery could also find a good market in Canada, their products being in every way equal to America, but apparently they have got as much business as they can contend with at home; very few of the firms are represented here, and few people know anything about them, consequently the enterprising "Yankee," with agents everywhere where there is a prospect of business, obtains the business, and deserves it. When will English manufacturers learn that it is necessary in these days of competition to "seek" business, and not to remain at home until "something turns up?"

I made mention a short time ago of the Empress Gold Mining Company. This mine is situated on Jack Fish Bay, on Lake Superior, and about 4 miles from the C. P. R. station. The property contains 160 acres. During the summer of 1895 prospecting and development work was carried on, and the results were so excellent that a company was formed. A 10 stamp mill was put up, shafts were sunk, and the property vigorously developed. The present mill plant has been in operation for some time, and the results are so encouraging that it was decided to increase the milling capacity, and acquire the necessary machinery for the treatment of concentrates. To this end application was made for supplementary letters patent to increase the capital stock to \$1,000,000. The application having been granted, 200,000 of the shares were offered to the public, half of which were subscribed for in the short time of a few hours. The ruling price was 25 cents, and all the money realized will be put into plant and wages. The property was reported on by Mr. P. McKellar, F.G.S., mining expert. There are five veins varying from 2 to 10 feet, and these join and form one leading vein running east-north-east, and has been traced for a distance of half a mile with test shafts, open pits, and crosscutting, which stretch across the adjoining location. They are all similar in character, and carry free gold. Two of the veins have been exposed for a mile or more along the surface by some 20 or more excavations, some of which are prospected to depths of 12, 25, and 45 feet into the solid vein. The main vein belt is from 20 to 40 feet wide, the quartz being associated with talcose schist, which is largely mixed with quartz stringers and lenses, and more or less sulphides. The quartz is well mineralised with the sulphides of iron, copper, and lead throughout the whole length, as far as seen. From enquiries I have made I think the prospects of this mine extremely good, and also one of the best propositions that have been placed on the market.

A mining location on Shoal Lake (Rainy River district) has been acquired by some Ottawa capitalists for \$25,000. It is situated close to the famous Mikado Mine, and was located early this summer, and thoroughly prospected. The main vein is 20 feet wide, and pans gold clear across. There are 14 smaller veins, apparently running into the main vein, which are all gold bearing, and average 2½ feet wide. This location I consider to be one of the best in the vicinity, and rich returns may shortly be looked for.

While in Toronto I heard of another rich discovery of gold. The situation of the deposit is said to be in the vicinity of the Empress Mine, in Jack Fish Bay. I could not gain much information concerning it; but from what I did hear I think it a very important one.

A dividend of 6d. per share has been declared on the shares in the VICTORIA GOLD MINING ASSOCIATION (Chartered), payable on December 7. The transfer books will be closed from the 23rd instant till the 7th proximo, both dates inclusive.

The dividend declared of 2s. 6d. per share on the shares of the FRANKS GOLD MINING COMPANY is payable on December 9. The transfer books closed on November 30.

The CROWN REEF GOLD MINING COMPANY (LIMITED) announces that holders of share warrants to bearer will receive payment of the dividend No. 17 (12s. per share), on presentation of coupon No. 5, either at the London office of the company, 130, Bishopsgate-street Within, E.C., or at the Banque de Paris et des Pays Bas, Rue d'Antin, Paris.

The offices of the COLLINGWOOD GOLD FIELDS have been removed from Dashwood House to 48, Old Broad-street, E.C.

The BANK OF BRITISH COLUMBIA has recently opened two branches in the district of Kootenay, B.C., at Kaslo and Sandon.

The edition of *The Miscellaneous Electrical Trades Directory* and *Handbook* announces that the 15th edition is in preparation, and will be ready in January, 1897.

REPORTS FROM THE MINES.

The Secretaries of their respective Companies have sent us the following Reports for publication:—

DEVON GREAT CONSOLS.—Wm. Clemo, December 2:—Watson's engine shaft. In the 172 fathom level east the lode has improved, and is now yielding 3 tons of copper and molybdenite ore per fathom. In the 148 fathom level east the lode is 3 feet wide, composed of capel and quartz. All the stopes throughout the mines are turning out fairly well, and are in full work. We shall sample to-morrow 130 tons of copper ore for sale on the 17th inst.

LEADHILLS.—W. H. Paul, December 1: Brown's vein. A stope over the 145 fathom level north of Jeffrey's shaft has been set to four men at 40s. per fathom. Vein producing 25 cwt. of ore per fathom. The stope above the 115 fathom level north of Jeffrey's shaft set to four men at 42s. 6d. per fathom; is worth 25 cwt. of lead ore per fathom. A drift over the 115 fathom level south of No. 1 stope is set to two men at 85s. per fathom; vein yielding good stones of lead ore. A stope over the 115 fathom level north of Jeffrey's shaft set to six men at 35s. per fathom will produce 30 cwt. of lead ore per fathom. The 85 fathom level south of Wilson's shaft is suspended for the time. The 50 fathom level north to main rise is set to four men at 80s. per fathom. Vein 4 feet wide, showing a mixture of spar and a little lead ore, but not enough to value. No. 1 stope below the 50 fathom level north of main rise, set to four men at 35s. per fathom, yields 20 cwt. of ore per fathom. No. 2 stope below ditto, set to four men at 35s. per fathom, is worth 30 cwt. of lead ore per fathom. The stope above the 50 fathom level north of said rise, set to four men at 35s. per fathom, will produce 50 cwt. of ore per fathom. Gripp's adit is now extended south of Wilson's shaft 212 fathoms 2 feet 6 inches, and reset to 4 men at 65s. per fathom. Vein in forebrest 4 feet wide, composed chiefly of stone and spar, and looks more promising for producing ore than of late; end also damp. Raik vein. A crosscut eastwards towards this vein at the 100 fathom level is driven 18 fathoms 1 foot, set to five men at 120s. per fathom. No material change in the character of the ground. A crosscut eastwards towards same vein at the 70 fathom level is now extended 29 fathoms 3 feet, and set to six men at 120s. per fathom, ground without change of note. The 100 fathom level north of crosscut is set to five men at 65s. per fathom, vein 4 feet wide and unproductive. The same level south of crosscut set to two men at 65s. is on a vein 4 feet wide, containing a good mixture of spar and kindly stone, but without ore; forebrest rather wet and an improvement in the vein may be expected. Gripp's adit level south of crosscut is set to four men at 55s. per fathom. This end looks more promising and vein shows more spar with strong spots of lead ore.—Dobels vein. Gripp's adit north-west is set to four men at 70s. per fathom. Vein has a kindly appearance, and yields good stones of lead ore at times. Surface operations are going on regularly, and the weather continues favourable for such work.

MISCELLANEOUS.

LUCKY GUESS (Grippe Creek).—Manager reports November 18: I have this day shipped 3 tons of ore for a test run to a new milling company, and have another 100 tons at the smelters, besides 50 or 60 tons in the ore bins. The mine continues to look well. The ore in the new vein in the upraise is improving in value, and assayed yesterday \$135.40 (nearly 7 ounces) per ton of 2000 lbs. from the best streak, and the rest of the vein is a good milling ore of a value of 3 cents.

LINARES LEAD.—Mine report, dated November 18:—Pozo Ancho Mine. Warner's crosscut. In the 200 fathom level driving east there is no improvement up to the present. The lode in the same level west lets out water freely, but does not contain sufficient ore to value. The lode in the 178 west is large and strong with good stones of ore, valued at ¼ ton per fathom.—Pell's engine shaft. The lode in the 200 west is compact and regular, and of a promising appearance, worth ¼ ton per fathom. In the 178 west the lode has improved to 1 ton per fathom.—Los Quintones Mine. Taylor's engine shaft. The lode in the 200 east is rather small, and the ground disordered by crosscrops. In the 185 east the lode continues very wide, but only contains spots of ore. In the 165 east nothing of value has been met with. The 150 east is well defined and yields splendid lumps of lead ore valued at 2 tons per fathom. The men are making good progress in the sinking of Ricardo's winze below the 165, and the lode is valued at 2 tons per fathom.

MIKADO.—The manager at the Mikado Mine (Lake of the Woods, Canada) states in a report to the directors, dated 15th ult., that the following results have been obtained from assay of two samples of mineral taken from workings on the company's property. From reef No. 1, 1 ounce 10 dwts. From reef No. 2, 15 ounces 15 dwts. per ton.

MOUNT CHARLOTTE.—In abridging the last report of the mining manager an error has been made. In the epitome sent to us, "average assay is 3 dwts." should read "average assay of waste after milling is 3 dwts."

BIRD-IN-HAND GOLD.—October 20: Report of work done on the company's property for the two weeks ending October 24. No. 1 main shaft. The westerly crosscut has been discontinued for the present, and have started driving on the quartz and formation passed through about 100 feet from the 135 east level. This drive has been extended a distance of 35 feet, and will be continued to test the nature and size of veins and formation mentioned to a reasonable distance.—No. 5 shaft (True Blue line). The easterly crosscut has been extended a further distance of 10 feet, making a total of 30 feet, but nothing fresh has so far been met with.

FORTUNA.—Mine report, dated November 18: Canada Inco Mine. San Pedro's shaft. In the 125 fathom level driving east the lode turns out some good spots of ore, valued at ¼ ton per fathom. The lode in the 125 west is small and unproductive. In the 125 east the lode has improved to 1 ton per fathom, and is regular and compact.—Gomez's winze below the 110 fathom level. The lode is well defined, but of no actual value.—Los Baldios Mine. In the 212 east of Taylor's engine shaft the lode is split into branches, and only shows spots of ore. In the 63 east on north lode we have met with a cross-course which has disarranged the lode. In the same level west we are still driving through unsettled ground. The lode in the 92 west of Palgrave's shaft is small and unproductive. Surface works are kept on regularly, and machinery is in good working order. Raisings for past month 203 tons, tributors returned 85½ tons of ore.

AUSTRALIAN AND NEW ZEALAND.

BLAGROVE'S FREEHOLD.—The agents report, under date October 17: We beg to hand you the report for the work done during the month ending as above. Engine shaft. This has been a further distance of 32 feet. The country rock in the bottom still continues very hard. Main crosscut has been extended 36 feet. There is a decided change in the face at this point, for the rock has become more blocky, and also of a more kindly nature, letting out a good deal of water. We should not be surprised to cut something at any time, as the indications warrant us in supposing that we are nearing a reef. Drive north on reef has been extended 20 feet, and at intervals we have got nice colours of gold in the quartz, and also some strong colours in the dish prospects. For about 30 or 40 feet in driving, it has also been a further distance of 32 feet. The face at present the reef has turned over from a westerly to an easterly dip. There is, however, a dropper coming down vertically and running into the larger portion of the reef that is making quartz, and these two will probably junction. All things considered, I think the reef at this point looks most promising, and that we shall strike a patch somewhere in the near future. The reef is 18 inches wide, showing at intervals nice blotches of gold in the stone, while the surrounding country carries the usual elements of a gold-bearing medium. The rise above the north drive has been extended and timbered 9 feet. The reef here is showing 2 feet thick, and has carried gold more or less for the entire distance risen. We expect good results here, for not only has gold been seen, but also native arsenic.—The drive south of the reef. This has been continued a further distance of 9 feet. The country rock at this point is not looking so well, and the reef is pinched up. This is, however, a peculiar characteristic of the reefs in this district, and rather a favourable sign than otherwise, and we should not be surprised to see it open out any moment and make good quartz.—Surface work. The smith and carpenter have been engaged doing the necessary work as required. Machinery and pitwork working well.

GOLDEN PAH (Hauraki).—The manager reports under date October 28:—I duly received your cable on September 8 ult., instructing me to procure the necessary titles and commence operations. I immediately got the ground surveyed, advertised in the usual way, and brought before the court (the first court following your instructions) on October 5. I immediately the following day got the company transferred and registered, and started operations on the 7th.—Preliminary work. I have engaged a good staff, underground mine manager, pitman, six good labourers, carpenter, smith, &c. Excavations have been made for smith and carpenter's shop, and a temporary road made from the main road to the level of the brace of our proposed Pah shaft. Timber has been ordered for cutting down the Pah shaft 100 feet. Material for smith's and carpenter's shop has also been ordered and partially delivered. Poppet heads have been ordered. We shall now very shortly proceed to cut down the Pah shaft. In order to carry out this work we must necessarily drain the water from the old Union Beach shaft. Before this can be done, however, we must get boiler power and a good Tange pump temporarily until our machinery arrives from England, of which I sent you a detailed list, both for the Hauraki on behalf of the Union Beach shaft, and for the Golden Pah on behalf of the Pah shaft, on May 6 last. With regard to our property, we are justified to at once order 10 heads of stamps with all gear and engine power to work same. I recommend you to at once order 10 heads with engine motive power sufficient to drive 30, at once, and dispatch immediately. I predict a good future for the company, and trust you will urge on the machinery as quickly as possible, so as to enable me to urge on the development of the property as speedily as possible.

NEW HAURAKI.—The manager reports under date October 28: I beg to hand you the following report for the month ending 17th instant.—Success No. 1 reef from Queen crosscut. The reef here is running 20° west of north and is 15 inches wide, containing very congealed quartz for gold, distance

driven 32 feet. The reef on further development looks promising for gold.—South Tokata reef intermediate from winze. Since my last we initiated an intermediate level from the winze below the South Tokata level and drive northwards. Of course this necessitated the laying down of a tramway, and 62 feet of crosscut to be partly timbered to put our quartz in the hopper in the deep level crosscut. The end is now extended on the line of South Tokata reef 21 feet. A few days ago an iron bar of solid pyrites crossed the lode about 3 inches thick, but in dipping in the opposite direction to the iron bar encountered in the South Tokata level above. The leader part of the reef in the end to-day is widening, and in now about 1 foot wide, composed of crystallized quartz. In this direction we hope to make discoveries, as we drive through a reef in the South Tokata level in this direction very encouraging, and only considered too shallow for making deposits of gold.—Prospecting west crosscut. We have extended this crosscut during the past month 13 feet, total distance now driven 135 feet. The rock continues very hard, but we may encounter moderate ground at any blast. We have a considerable distance to drive in this direction before intersecting the east and west reef, and inasmuch as the country before us is all virgin, the crosscut is of the utmost importance, and must be carried through.—Nichol's deep level crosscut. This now measures 335 feet, being 28 feet developed for the month. We have passed through two veins in this drive—one 6 inches wide, bearing 309 north of west, the other bearing 30° south of east is about 6 inches wide. From the latter we raised a few colours of gold by panning. We have decided to-day to drive a few feet on the latter. This vein being only a few degrees out of the line of our crosscut will be a point important in intersecting any reefs that may be discovered ahead.—Big reef crosscut. We have driven on this formation during the month 58 feet, total distance 70 feet. We have to-day reached the boundary of the Success, consequently it is suspended, and I may say that this formation in the forebrest to-day is reduced to about 2 feet wide, caused by the influence of a slide about 20 inches wide running across it.—Deep level east and west reef. Two men have extended this level 16 feet, the total distance now driven is 123 feet. During the month we have crosscut through the reef, which proved to be 22 inches in width with a bearing a little more southerly.—East and west reef, No. 2 crosscut. This crosscut was initiated in the early part of the month to intersect the deep level east and west reef more easterly. We have driven 25 feet. The rock in the end is a hard blue sandstone. We have cut through one or two veins in this drive. The distance to drive is somewhat uncertain, being in the bush and virgin ground, and with the variable nature of reefs, it is hard to determine the distance, but within 100 feet ought to cut the reef we are in search of.—East and west reef No. 3 crosscut. This crosscut has been driven still more easterly of the No. 2 crosscut and is now about 45 feet long. The country here is a very moderate sandstone. There is nothing of importance passed through in this drive, but we hope ere our next report to have cut a reef.—Timber. Our bushmen have delivered 600 slabs and 100 logs, besides delivering 1758 slabs from the Kauri Spout.—Conclusion. The mines have been developed with good progress during the past month. There is nothing of importance to report, but hope as our developments proceed that I shall be able to report discoveries.

HAURAKI.—The manager reports under date October 28: I beg to hand you the following report for the month ending the 17th inst.—200° fathoms level. The crosscut north-east which is being driven to the centre of the Iona shaft for the purpose of rising to the said shaft is now advanced from the shaft 87 feet. In the present forebrest there is a strong body of quartz. As yet we have not seen any gold, neither is there sufficient work done on it to speak much of its value. I am in hopes that it will give us good crushing ores in the future. A few feet behind this quartz referred to we cut through a small vein, from which we got strong colours of gold. In all probability this vein is a portion of the reef referred to, now in the end—200 fathoms level north-west on No. 2 reef. We have driven through the reef from the crosscut 27 feet. There is a strong flow of water throughout the whole of this drive. The reef and country passed through are greatly disordered and broken. This level has not drained No. 2 reef, as was done in the upper levels, consequently there is a change or faulty rock between this and the 220. This level we expect to communicate with No. 1 winze at an early date, the No. 1 winze being now down 73 feet. The reef and rock in the winze referred to is of the same description as in this level.—No. 1 winze below 220. The winze as referred to has reached a depth of 73 feet, the reef and country rock being much disordered and is still undrained of water. We shall now suspend sinking here, leaving the level to advance, and probably put up a rise to effect communication with the level point.—220 fathoms level No. 2 winze. This winze is now below the level 62 feet. The reef and country in this winze are of a more congealed nature; the reef averaged 6 inches wide. Although we have seen no gold for the last 20 feet sunk through, I have still hopes that good ore will be met with when we open up this section for stopping.—Stopping above 220 fathoms level No. 2, 12 men continue to stop here, raising first-class ore.—Cross reef south 220 fathoms level. This level was advanced 37 feet, total distance south of No. 3 408 feet. The reef averaged 4 inches of payable ore. We have initiated a stop in the back of this level, and obtained first-class ore.—185 fathoms level on Cass Rock reef. This was driven for the month 44 feet, total distance 85 feet. The reef still maintains its size, being about 12 inches wide, having a good appearance for the production of the precious metal, but as yet we have not made any discoveries. I venture to say, however, that when we are prepared to rise on this reef or sink below this level, and with the long line of reef before our end to the boundary, we shall make good discoveries. A level being driven through a reef in Coromandel is no criterion of its value, as to discover rich patches of gold a through and through development must be made.—185 fathoms level Iona, No. 3 reef. This reef has been intersected in the level between the Iona crosscut and New Year's crosscut. This reef averages 5 inches wide, and is producing first-class ore.—140 New Year's stopes. The stopes on this reef have turned out during the past month fair average ore. These stopes are now exhausted, having reached the 100 feet level.—Stopping on cross reef above 160. The stopes above this level have yielded crushing ores during the month of good quality, the reef averaging 8 inches wide.—Stopping on No. 2 north over 160. The reef in these stopes averaged 8 inches, fair grade ore have been raised from these stopes during the month.—Stopes on No. 2 reef south above 160. These stopes, which are in junction with No. 2 and New Year's reefs, are turning out a large quantity of fair general crushing ore.—Iona No. 1 in the intermediate. A level has been extended 11 feet south of the winze, but coming in contact with the slide was suspended, and the men put to drive on No. 3 south of Iona No. 1 at the 100 feet level, where the reef averages 3 inches and is producing good ore.—100 fathoms level. Driving on cross reef north of No. 3 at 100 feet level.—Iona shaft. This shaft has been retimbered, and cages with cage rods completed to the 100 feet level, where we have started to drain the water and clear the shaft of debris. The engines work first-class, which is a great help to relieve the Hauraki shaft winding engine. Pumping and winding machinery is working well, also the battery engine and stamps are in good order, but the battery boxes will be replaced by new ones during the coming month. This will be a little stoppage for eight or nine days. All other works are going on steadily and satisfactorily.—Returns. During the month we crushed 300 tons of quartz and 669 lbs. of picked ore for a return of 2085 ounces 14 dwts. of melted bullion, realising £2476 6s. 9d., which I trust is satisfactory.—Conclusion. I may say in explanation of the amount of ore treated being less than last month, is owing to the smaller average size of the reefs throughout the mine, and not to any reduced number of hands employed. At all times the quantity of quartz results more or less simply vary with the size of the reef, and also the retentiveness of the varied retentiveness of the reefs, and the 330 north-west, as far as driven on the No. 2 reef, under the reef and rock are disordered. Our prospects, however, in getting under No. 2 winze, a considerable distance ahead, is the most important section to prove the value of this level, the same as was in the upper levels.—Union Beach shaft. We have ordered timber for this shaft for poppet heads, and are making arrangements with a view to draining that shaft. This necessarily must increase our costs for a few months. All works are going on through the month, and in the future developments, that it is necessary at once to order a new pumping engine and boilers for deeper mining, as by the time these arrive our present pumping engine will be worked to its capacity. I am sending you details of this in my official letter, and trust you will give the matter your best attention.

AFRICAN.

LANGLAAGTE ESTATE.—The following report has been received:—Ore hauled from the three shafts to mill 23½ tons, ore from surface ore reserves 650 tons, total 673½ tons, assaying under treatment 22½ tons, concentrates under treatment 130 tons, average assay value of ore to mill 7 dwts. 22 grs., average assay value of tailings 2 dwts. 21 grains, average assay value of concentrates 1 ounce 7 dwts. 17 grains. The machinery has worked satisfactorily, and all construction work is being pushed ahead.

BLOCK B LANGLAAGTE.—The following report has been received:—Development for week 58 feet driven and sunk. Tons of ore crushed 164½, tons of tailings treated by cyanide 890, tons of concentrates treated by cyanide 109. Nearly all the drives and winzes have improved in looks and value.—Mines. Stopes remain about the same, but will probably improve shortly. Water supply very good.

CHIMES WEST.—The Anglo-French Exploration Company (Limited), as London agents for the Chimes West (Limited), have received the following information from Johannesburg, relative to the work done during the month of October: During the month of October the main incline shaft intersected the south leader at a depth of 294 feet from surface, and 58 feet below the second level. The leader was 8 inches wide where struck, and assayed 1 ounce 7 dwts. 12 grains. The leader also struck the east and west crosscuts at third level, giving the following assays—East crosscut, 1 foot thick, 11 dwts. 2 grains. West crosscut, 6 inches thick, 1 ounce 3 dwts. 11 grains. As the country is disturbed at the western end of the mine, work has been discontinued here for the present. It is intended to prove the third and fourth levels in the central and eastern sections where the formation is more settled, before resuming again in the western section. In the meantime work is being concentrated at the main shaft and at the winze in the eastern section of the property. The erection of the permanent head gear is being pushed on by the contractors as quickly as possible. Appended is a résumé of development done for the month, and a summary of assays taken.—Number of feet driven, risen, and sunk for October.—Main incline shaft, 38 feet, total 219 feet. East drive 27 feet, total 54 feet. West drive 20 feet, total 49½ feet.—No. 2 incline shaft, 31 feet, total 339 feet. West drive second level, 13 feet, total 395 feet.—No. 1 vertical shaft. East winze below second level, 47 feet, total 141 feet. Total footage for month, 170 feet.—Assays for October. No. 1 vertical east winze, width 3 feet, value 14 dwts. 16 grains. Main incline shaft, west crosscut, width 3 feet, value 11 dwts. 3 grains. Main incline shaft, east crosscut, width 1 foot, value 1 ounce 7 dwts. 12 grains.

LANGLAAGTE STAR.—The following report has been received:—Development for week amounts to 43 feet. Tons of ore crushed 533, tons of tailings treated 470. Main reef leader in winzes east and west of new incline shaft is not looking quite so good this week. Water supply is very good. Most of the machinery is in very fair working order.

MYSPACHT RANDFONTEIN.—The following report has been received:—The main shaft has been sunk 13 feet, total depth 443 feet. The ground is not looking quite so good this week. The erection of the compressor is being pushed on as rapidly as possible.

BENONI GOLD MINES.—The Anglo-French Exploration Company (Limited), as London agents to the Benoni Gold Mines (Limited), have received the following information from Johannesburg:—The following work has been in progress during the month of October on this mine, viz:—No. 1 main shaft. This shaft is down to a total depth of 312 feet, 45 feet of which was sunk during this month. All the necessary permanent timber, with the required ladders and skip road, &c., have been put in position to within a safe distance for blasting from the bottom.—No. 2 or western shaft. At the commencement of October the required ground for three sets of bearers was taken out and the bearers put in position for the support of the permanent timber. Sinking was then resumed and advanced 35 feet for the month. This shaft is now down to a total depth of 237 feet, and has been timbered to within a reasonable distance of the bottom.

BIG GOLDEN QUARRY.—The secretary writes:—Mr. J. Deacon Newton, one of the directors of the company, who has been in South Africa since August last, and is now on his way home, has been very successful in his mission. His acquisitions for the company so far justify expectations, and should give the company a place among the best South African companies. Mr. Newton, while speaking favourably of the management of a good many companies in the Kimberley district, yet holds a very high opinion of that district itself. He considers that when taken in hand by the right people, who will bring with them the best mining managers, Kimberley may yet rival the Rand. Everything seems to indicate splendid gold-producing formations of immense area. The big Rand mining people are evidently intending serious operations in this district in the near future, for their agents have been very active for some months past in buying up claims in all directions.

ELANDSFONTEIN NO. 2.—The following is from the contractor who is sinking the shaft on this company's property:—I am pleased to inform you that I have finished timbering shaft this week as a permanent mainhauling shaft, but am sorry to say by no means so secure that I am unable to proceed sinking until I get a fresh lay of boys, all outside prospectors are complaining of the scarcity of labour. I must inform you that Mr. Champneys has been out to the mine on several occasions, and it is under his directions that I have completed the timbering. I have heard no more concerning the stolen goods, but any information I can collect in the meantime will forward by next mail.

FRENCH RAND GOLD MINING COMPANY.—Report for October: The following development has been done in October:—Sinking during month. New vertical shaft 78 feet, total 431 feet. Von Hesser vertical shaft 60 feet, total 818 feet. No. 1 incline shaft 39½ feet, total 703 feet. No. 3 incline shaft 48 feet, total 728 feet.—Drives. Incline 1 east on main reef 30 feet, total 141 feet. Incline 1 west on main reef 38 feet, total 154 feet. Incline 1 second level east 17 feet, total 31 feet. Incline 1, first crosscut west level, 33 feet, total 30 feet. Incline 2 south reef west level 37 feet, total 319 feet. Incline 2 main reef west level 36 feet, total 158 feet. Incline 3 main reef west level 12 feet, total 40 feet. Incline 3 crosscut first level 5 feet, total 8 feet. The equipment of the surface is progressing satisfactorily. The new Reider air compressor will be ready to start in a few days. Native labour has been scarce but shows signs of improving. The main reef has been cut in No. 1 incline shaft about 190 feet west from the shaft. It is 3 feet 6 inches thick and assays 8 dwts. The following are other assays taken during the month:—West from No. 1 incline shaft reef 6 inches thick, 14 dwts. 6 grains. East from No. 1 incline shaft reef 10 inches thick, 11 dwts. West from No. 2 incline shaft reef 8 inches thick, 7 dwts. 18 grains. West from No. 2 incline shaft reef 2 inches thick, 3 dwts. 6 grains. The reef in Von Hesser shaft has not yet been struck, but is expected daily.

KLEINFONTEIN CENTRAL.—The Anglo-French Exploration Company (Limited) as London agents to the Kleinfontein Central Gold (Limited) have received the following information from Johannesburg:—Progress of work done on this property for the month of October is reported as follows:—No. 1 main shaft. Six sets of timbers with dividers complete have been put in, also 35 feet of double cage road and 40 feet of ladderway. 36 feet has been sunk during the month to the shaft is now down to a total depth of 236 feet.—No. 2 main shaft. The total depth of this shaft is 311 feet 9 inches, 42 feet 9 inches of which has been sunk during the month. Seven sets of timbers have been completed, also 50 feet of double cage road and 80 feet of ladderway.—General. A pump has been fixed in one of the prospecting shafts, and 1000 feet of 3 inch piping laid to carry water to the compound.

LISBON-BERLYN.—The manager's advice gives the following details of work done during October:—Mining. The shaft south driven 112 feet, thickness of reef 21 inches, output 140 tons, assay value 10½ dwts. per ton. The shaft mill section driven 192 feet, thickness of reef 17 inches, output 353 tons, assay value 15½ dwts. per ton. The shaft west driven 91 feet, thickness of reef 9 inches, output 12 tons, assay value 4 dwts. per ton.—Prospecting. The shaft north driven 46 feet, thickness of reef 5 inches. The shaft mill section driven 7 feet, thickness of reef 5 inches. The shaft rotunda creek, making open cuts for five drives.—Milling and dry crushing. Five stamps ran 5½ days and crushed 75 tons ore, yielding 7½ ounces bullion (estimated), and valued at £22 4s. 8½ tons ore were put through the rock breakers previous to direct treatment at the cyanide works.—Cyaniding. Work was resumed at the cyanide works on October 19, and of 1338 tons charged into the vats 1572 tons (dry) were cleaned up and yielded 559½ ounces of bullion, of an estimated value of £188 17s. The fineness of the bullion is low owing to an increased quantity of copper contained in the ore from the mill section.

MEYER AND CHARLTON.—Report for the month of October: Mine. Number of feet driven, sunk, and risen 429 feet, ore opened up by development 8531 tons, quartz mined 13,121 tons.—Milling. Number of days (24 hours) working 82 stamps 24 days, ore crushed 15,577 tons, yield in amalgam gold 3539 ounces 15 dwts. 9½ grains, yield per ton 2 dwts. 11½ grains.—Cyanide works. Tailings treated 8600 tons, yield in bullion 1744 ounces 14 dwts. 18½ grains, yield per ton treated 5 dwts. 6½ grains, working cost per ton treated 3s. 0¼d.—Working expenditure. Mining (including maintenance) £5751 1s. 4d., transport (£147 11s. 11d., milling (including maintenance) £1725 15s. 3d., cyanide works (£147 11s. 11d., general charges £270 11s. 6d., mine development redemption account £1586 11s.—Revenue. By gold accounts, 3283 770 ounces from 30 stamp mill, at 75s. 6d. per ounce £11,974 7s. 1d., 1744 738 ounces from cyanide work, at 60s. per ounce £234 4s. 4d., sale of silver £105 15s. 3d., rents £49 17s. 6d., total £17,384 4s. 4d. profit for month £2078 8s. 4d.—Summary of revenue and expenditure (on basis of tonnage mined)—15,577 tons. By value of yield (mill) £1 2s. 11½d., per ton, by value of yield (cyanide works) 9s. 10½d., per ton, total £1 12s. 6½d., per ton. To mining expenses 12s. 2½d., per ton, to transport expenses 3s. 34d., per ton, to milling expenses 3s. 6½d., per ton, to cyanide expenses 1s. 9½d., per ton, to general charges 1s. 7½d., per ton, to maintenance 1s. 9½d., per ton, to mine development redemption 2s. per ton, to total working cost £1 1s. 4½d., per ton, to profit 11s. 3½d., per ton. Expenditure on capital account. Mine development £1277 9s. 1d., machinery, plant, buildings, &c., £2208 12s. total £2779 1s. 1d., less line redemption (charged under working cost) £1586 11s., total £1692 10s. 1d.—Crushed during the month. Main reef 2944 tons, south reef 6015 tons, leader reef 1818 tons, total 10,577 tons.—George Albu, managing director.

ROBINSON GOLD.—The directors submit the general manager's summary of operations of the company for October, together with statement of expenditure and revenue, as follows:—Mine. Quarts mined, 18,500 tons.—Permanent works. Main incline shaft (west) sunk 49 feet. Main incline shaft (east) sunk 49 feet.—Development. Drives 34 feet. Rases 45 feet. Total, 177 feet.—Milling. Stamps at work 127, net-running time 29 days, tons crushed 15,500 tons, tons per stamp per diem 4,7, gold won from above 12,016 ounces 17 dwts.—Chlorination and cyanide works. Gold won from own concentrates (by chlorination) 935 ounces, bullion from tailings (cyanide process) 2834 ounces 12 dwts., bullion from silimes (Rand Central O.R. Co. (Limited) 1023 ounces 4 dwts., from own ore 18,689 ounces 13 dwts., gold from concentrates purchased (by chlorination) 2318 ounces 6 dwts., total 52,17 ounces 19 dwts.

EXPENDITURE AND REVENUE, MONTH OF OCTOBER, 1898.			
Working Expenditure.			
Crushed 15,500 tons.			
Cost per ton			
Mining account (including mine maintenance)	£10,761 9 4	£10 13 0	53
Milling account (including mill maintenance)	3,131 9 4	0 3 9	55
General maintenance account	434 19 4	0 0 6	32
General charges	1,892 2 4	0 2 8	52
	£16,219 15 4	£20 19 7	92
Expenditure on mine development (including main shafts)	1,138 1 4	0 1 4	55
Cost of machinery, plant, and buildings	448 10 9	0 0 6	53
	£17,866 7 5	£21 1 7	00
Retirement Account.			
Working expenses at cyanide and chlorination works	£3,474 7 8		
Cost of concentrates purchased (including receiving)	17,336 8 6		
	£23,517 3 7		
Profit for month		£23,005 3 8	
		£27,522 7 3	
Revenue.			
Gold account (mill) 12,016 ounces 17 dwts.	£13,861 10 0		
Sundry revenue	300 0 0		
	£14,161 10 0		
Blimes plant account:—			
8279 tons silimes delivered	1,089 4 11		
Company's share of profit	238 5 2		
	1,327 9 13		
Retirement account:—			
Gold account (tailings) 2944 ounces 12 dwts.	9,775 3 9		
Gold account (own and purchased concentrates) 4283 ounces 6 dwts.	17,707 17 8		
	27,482 1 3		
Plus amount received in excess of book entry for gold		480 5 11	
		£27,962 6 4	

Comparatively very little development work was done during the month, the greater part of the rock drilling plant having been kept running in the stopes in anticipation of troubles occurring in connection with the reduction of native wages. We expect to be able to resume driving and sinking at the usual rate during November.

WESTBROOK MINES.—Extract from mine manager's report, dated from Kimberley, October 28:—Mining has progressed as below:—West incline. Sinking from surface. Pro. res. 22, total 804. Rising from vertical. Progress 25 feet, total 58. Sinking from vertical. Progress 4, total 21. Total progress, 51. This leaves 13 feet to hole, which I hope to be able to do before Saturday, as the air on both sides is getting extremely bad. On the dip side of the vertical we have done very little work owing to our having struck another strong level of water, which is as much as the pumps can manage, consequently the face of the incline has generally been under water. I propose to run it back to the pump.

AMERICAN.

ANGLO-MEXICAN.—Under date October 27 the mine manager reports as follows:—Drift south level No. 12. The vein in this drift is 3 feet wide, and assays \$26.65 per ton. The ore has been worked copper state, which has been characteristic of some of the near by bodies in the upper levels. Winze No. 13. This has reached a depth of 41 feet. The vein continues about 5 feet wide, carrying good ore.—Drift south from O.C. No. 1 east main tunnel. The ground still continues favourable, and we advanced 50 feet this week. We are not trying to follow the vein, but have directed the course of this drift towards the old workings of the Todos Santos Mine. We will crosscut from time to time.—Drift north Mina Arana shaft. We have cut the footwall of vein with this drift. The ore is very low grade. Taking the mine all in all the prospects are not encouraging.

CALIFORNIA MILLING AND MINING.—The following is the manager's report for the month of October: Custom ore milled 1531 tons. California ore nil. Average number of stamps dropping 50. The immediate prospects of custom ore supply seem somewhat improved. Income for the month \$383'06, expenditure for the month \$234'6', profit \$148'46.

CHIAPAS.—Mine report for fortnight ending October 15: Taylor deep adit driven 23 feet, total 378 feet. Passed out of siliceous into garnet rock. Pine Creek No. 1 driven 20 feet, total 178 feet, showing at times ore. Work continued fairly through ore fairly disseminated, though not payable. San Antonio prospecting drift driven 1 foot, total 63 feet. No change. Santa Fe hill drift No. 3 driven 13 feet, total 252 feet. Carries some carbonate ore. Providencia crosscut east No. 1 driven 3 feet, total 438 feet in payable ore. Have started a drift at right angles following the ore. Assay, gold 2 dwts., silver 3 ounces 8 dwts., copper 1 3/4 per cent. Francisco winze sunk 4 feet, total 24 feet. Continues in fair ore. Francisco adit drift south east No. 1 driven 24 feet, total 108 feet. In garnet rock. Assay, gold traces, silver 7 dwts., copper nil.—Ex. level.—O.C. Providencia. Extracted 262 tons. Very good ore. Assay, gold 1 ounce 12 dwts., silver 19 ounces 10 dwts., copper 11 3/4 per cent.—Santa Fe stoper. Extracted 61 tons. Fair ore.—San Juan stoper. Extracted 375. Greatly improved, yielding good ore. Assay, gold 13 dwts., silver 9 ounces 7 dwts., copper 5 3/4 per cent.—Francisco adit stoper and winze. Extracted 101 tons. It is fallen off in quality. Assay, gold 3 dwts. 12 grains, silver 5 ounces 12 dwts. 12 grains, copper 3 3/4 per cent.

DARIEN GOLD.—Cans, via Panama, September 20: The following is from the report of the operations which have been carried out at your Can Mines since my last general report of November, 1897:—Mine. Heenan's engine shaft has been sunk and timbered 36 feet to date, making a total depth of 236 feet from surface. Sinking operations are now in full swing, and we hope to get down to the next level by the end of present year. At the early part of the year the pit and sump at the 100 foot level were constructed, and the guides for a double skip road placed in the shaft from surface to the above-mentioned pit.—Hydraulic pump station. 150 feet of drivages have been made for the pump motor and water discharge to the adit level, a considerable amount of further excavation is required. The rock from both the above works is being used for filling in No. 2 stopes.—100 feet workings. 350 feet of drivages and 260 feet of crosscuts have been driven on the lode for the purpose of development.—No. 1 winze and drift for filling. This was sunk on the lode from the adit level to the 100 foot level—on the north wall of the lode, and, consequently, in low grade hard rock. The winze was divided into two compartments, the one serving as a ladder way, and the other as a rock chute for filling the stopes. At the pit level the lode is 10 feet wide, and the level is being stopped away, and the water way is being enlarged and secured. Round the Spanish open cut two lines of ditches have been opened out to catch surface water and a line of wooden launders has been put in for a similar purpose. Very little surface water now enters the mine—only in the event of a severe local deluge are we in danger of being flooded from this cause. No. 2 stopes was commenced at the 100 foot level in January, and to the end of August 3603½ tons of ore had been extracted, yielding in the mill 4917'99 ounces of bullion equal to 123 ounces fine gold per ton. The whole of the lode is being stopped away, and the workings secured by means of square sets of timbers. Very great care has been used to prevent caves and falls, the lode having been already pretty thoroughly honeycombed by the Spaniards.—General remarks on the mine. The discovery of old workings at the 100 foot level last January was a most disagreeable surprise, and of course modified to a great extent our former estimate of the past year's work, though it is quite clear that had these old workings not existed our prospects would have been more than fulfilled. We are not yet below the old workings, and until the next level is carried right through the lode it is impossible to say how deep they really are. We have now learnt to respect these old workers, and shall not again attempt to limit their capabilities until we are in the virgin lode beneath them. There is no doubt, however, but that they had left a great deal of high grade rock standing at the 100 foot level, and the workings below appear to be of comparatively small extent. Their sinking capacities were necessarily limited by reason of their crude machinery for raising water. By referring to last year's report you will note that 19357 tons of ore crushed from adit level contained 81 ounces gold per ton, while 3602½ tons from the 100 foot level have contained 123 ounces gold per ton. In both cases the lode has been thoroughly worked by the Spaniards and the richest ore removed. I believe there is every reason to expect the virgin lode to yield all through from 2 to 3½ ounces per ton. With regard to the extent of the lode at the 100 foot level we have proved it to be 80 feet wide and 120 feet long, and we have not yet seen the end of it to the south-west owing to the old workings. The south wall is beautifully defined and dips very regularly to the south under the mountain. The sulphurets are in our deepest workings is the richest in gold. The gold in this is coarse and free milling. There is every prospect of the lode continuing for many hundreds of feet in depth, and of our finding it there as rich or richer than the Spaniards had it in the shallow workings. When once the ground is open it is easy and cheap to break the ore in the stopes. With a solid lode, free from old workings, there will be no difficulty in keeping the 20 stamps continually at work. Up to the present we have had to contend with a honeycombed lode, the old excavations being completely filled in with rotten and decaying timber and clayey mud, the latter sometimes so liquid that it was impossible to treat it. There is every prospect of the lode continuing for many hundreds of feet in depth, and of our finding it there as rich or richer than the Spaniards had it in the shallow workings. When once the ground is open it is easy and cheap to break the ore in the stopes. With a solid lode, free from old workings, there will be no difficulty in keeping the 20 stamps continually at work. Up to the present we have had to contend with a honeycombed lode, the old excavations being completely filled in with rotten and decaying timber and clayey mud, the latter sometimes so liquid that it was impossible to treat it. There is every prospect of the lode continuing for many hundreds of feet in depth, and of our finding it there as rich or richer than the Spaniards had it in the shallow workings.

The few mines now working that can show such a result.						
Month, 1893.	Tons of ore crushed.	Bullion produced in ounces.	Fine gold lost as per ton "tailing." Assays.	Fine gold per ton of ore treated. Ozs.	Fine gold lost as per ton of ore. Ozs.	Per- centage of ex- traction. Fine gold.
January	493 05	477 25	109 77	1 12	0 89	79 5
February	458 80	335 92	38 30	0 77	0 688	85 3
March	493 85	1190 98	37 25	3 02	2 28	74 8
April	487 20	711 12	282 85	1 96	1 38	70 4
May	532 70	971 43	184 67	2 37	1 72	85 2
June	493 80	586 41	34 98	1 31	1 13	74 3
July	648 30	661 38	34 98	1 32	0 98	72 5
August	648 30	661 38	34 98	1 32	0 98	72 5
Totals	3603 45	4947 99	1415 47	—	—	—

DE LAMAR.—Report of mining and milling operations here for the month ending October 31:—Mining.—Ore breaking department. The places in the mine from which ore has been taken, together with the width of the ore bodies and their approximate value, are as follows:—Wilson vein, above 3rd level, was driven 3 feet, assaying \$20 in gold and \$150 in silver, equal to \$115.50 in gold and \$1 in silver, equal to \$116.50.—Hamilton vein, above 5th level. Average width 4 feet 8 inches, assaying \$16.45 in gold and \$1.80 in silver, equal to \$18.25 per ton.—Hamilton vein, above 8th level. Average width 2 feet 8 inches, assaying \$14.10 in gold and \$5.35 in silver, equal to \$19.45 per ton.—77 feet vein, above 4th level. Average width of vein 3 feet, assaying \$14.70 in gold and \$1.15 in silver, equal to \$15.85 per ton.—77 feet vein, above 5th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 6th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 7th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 8th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 9th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 10th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 11th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 12th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 13th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 14th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 15th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 16th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 17th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 18th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 19th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 20th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 21st level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 22nd level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 23rd level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 24th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 25th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 26th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 27th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 28th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 29th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 30th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 31st level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 32nd level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 33rd level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 34th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 35th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 36th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 37th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 38th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 39th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 40th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 41st level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 42nd level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 43rd level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 44th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 45th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 46th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 47th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 48th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 49th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 50th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 51st level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 52nd level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 53rd level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 54th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 55th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 56th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 57th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 58th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 59th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 60th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 61st level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 62nd level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 63rd level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 64th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 65th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 66th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 67th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 68th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 69th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 70th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 71st level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 72nd level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 73rd level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 74th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 75th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 76th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 77th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 78th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 79th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 80th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 81st level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 82nd level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 83rd level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 84th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 85th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 86th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 87th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 88th level. Average width of vein 4 feet 8 inches, assaying \$17.75 in gold and \$1.15 in silver, equal to \$18.90 per ton.—77 feet vein, above 89th level. Average width of vein

AND.
1911. 1912

to 10 feet, October 31.—o. 17 level west. This level has been driven a further 18 feet, making total distance from shaft 1 0 feet. The formation 18 inches in thickness, worth (say) 12 dwts. per ton. The reef in the stopes will average 16 dwts. in thickness, worth (say) 12 dwts. per ton.—No. 47 level east. This level has been driven 5 feet, total 181 feet. The formation at the bottom of the level is 25 feet in width, carrying four distinct thin veins of quartz, each 6 inches in thickness, worth (say) 17 dwts. per ton. The reef in the stopes will average 1/4 feet in thickness, worth (say) 17 dwts. per ton. No. 16 and the level is now standing. No. 1 winze has been sunk 24 feet, total depth 61 feet. About 2 feet of the reef is being sunk on in the winze, leaving stone thickness, worth (say) 18 dwts. per ton. The formation is not quite so big as the reef. The Tallman reef will average 10 inches in thickness in the stopes, extending 100 feet. The crosscut drive on the Tallman reef has been driven 14 inches in thickness, total distance from crosscut 55 feet. The reef is about 4 feet on the Tallman reef in the face.—No. 15 level east. The crosscut drive driven 23 feet. The formation is 4 feet in thickness, interbedded with quartz leaders. The reef in the stopes will average about 15 inches thickness, but at present is showing very little mineral. The reef in the 12 dwts. per ton.—No. 14 level west. The reef in the stopes will average about 8 inches in thickness, of poor quality.—No. 14 level east. The crosscut drive on the Tallman has been driven 13 feet, total 50 feet.—No. 13 level west. The reef in the stopes will average 20 inches in thickness, worth 17 dwts. per ton.—13 level east. The ground is still out for the Tallman has been driven 14 feet, total distance 120 feet, total distance for breaking.—No. 12 level east. This level has been driven 10 feet, total 20 inches in thickness, and is now up to the boundary. No.—No. 11 level west. The rise has been put up 31 feet, total height 77 feet. The reef in the stopes is white and rubby at present. The formation will average 4 feet in thickness, worth (say) 12 dwts. per ton.—No. 4 level west. The reef has been sunk 25 feet, total 78 feet.—No. 3 shaft. The underlie has been driven down from the 12 level 25 feet, total depth 1107 feet. There are 4 feet of quartz in the bottom with two veins, each 6 inches in thickness, of rubby quartz.

NEW AUSTRALIAN BROKEN HILL CONSOLS.—The mining manager by mail for the fortnight ended October 24 as follows:—Block 98, incline sunk 5 feet 6 inches, total 631 feet. Lode is again compact and favourable, and is apparently going down steeper. Water influxes rapidly at the

No. 2 lode has opened up a small branch of good looking pyrites in foot of end, which is probably a leader from No. 1 lode. In driving towards the No. 1 lode at this level there is nothing new except a small branch in face of end containing a little pyrites. The lode in the 46 east on P as no lode is now 1-20 metre wide, and is opening up decidedly better than was at first anticipated. It is at present equal to anything now working in the mine, and its real value will be known when the 250 level is opened up. The No. 1 lode has the lode averages 90 centimetres in width, composed of quartz and pyrites, and is estimated to produce 7 tons per fathom at 1 ounce 10 dwts.—Crosscut. The 43 south from Taylor's shaft is in gneiss. No change to record since last reported in the 55 south at Pozzone, or in the 70 north and 90 south at Acquata.—Stopes. These have slightly decreased in the quality of ore produced, but, as this has happened before, an improvement is again expected. The 43 south, which is 10 metres wide, is wet and hard for driving. It carries two small veins marking a little pyrites on each wall, while the roof shows a little quartz. Crosscut west from Morgan adit is being continued in compact gneiss.—Kint concession. Lode in the Oro Seco end east is 1 metre wide, and mineralised throughout. The wings and ribs continue as last reported, and are not yet communicated.—Val Tappa. Carbonate section. In the end east from wine the lode is dispersed in small veins filling the gneiss. The 43 south is 10 metres wide, and an improvement will undoubtedly take place in the course of a few days. The end west from wine has a lode 70 centimetres wide, carrying a little mineral and looks more promising. This level has hitherto been reported south, but the lode has turned at right angles and now goes west. No change at the other points. The machinery continues to run satisfactorily.

NUNDYDROOG.-Thomas Richards

The BRITISH SOUTH AFRICA COMPANY notifies that allotment letters in respect of shares not taken up by shareholders in the *pro rata* allotment were posted on Saturday to shareholders who applied for additional shares. A considerable number of applications were received too late to be considered.

NOVEMBER, 1896.

TIN.

(From Messrs. A. Strauss and Co.'s Circular for November, 1898.)

Shipments during the month from Straits to London					18,710 tons
30	10	75	Australia to London	280	"
30	10	75	London, Havre, and Holland to America	993	"
09	20	90	Straits to America	1,210	"
30	0	30	Australia to America	59	"
09	20	30	Straits to Continent	120	"

	During 12 months ending Nov. 30, 1896.	During 12 months ending Nov. 30, 1895	During 12 months ending Nov. 30, 1894	During 12 months ending Nov. 30, 1893	During 12 months ending Nov. 30, 1892
Shipments from Straits to London	23,082	30,325	26,892	25,755	21,596
Shipments from Straits to America	12,200	7,140	5,810	5,020	4,585
Shipments from Straits to Continent	12,995	11,400	12,083	8,418	10,010
Ditto from Straits to Europe and America	47,457	48,765	45,485	39,210	4,007
Shipments from Australia to London	3,273	3,585	4,282	4,981	716
Shipments from Australia to America	750	850	1,100	608	14,643
Deliveries of Tin in London	19,812	16,980	18,321	18,645	22,776
Deliveries of Tin in London and Holland	29,924	25,910	27,031	25,311	40,861
Ditto in London, Holland, France, and U. S.	31,732	25,908	25,254	31,449	

Beacon Trading Company's hands and afloat 5473 tons

<p>Barca in Trading Company's hands and about 5673 tons.</p>									
<p>PATERS; Straits and Australian spot 250 2 0 three months 250 0 0</p>									
<p>English Common Ingots 62 0 0 refined 18 5 0</p>									

PROVINCIAL SHARE MARKETS.

THE CORNISH MINE SHARE MARKET.

Mr. MICHAEL WILLIAMS BAWDEN, Mining and Assaying Offices, Liskeard, Cornwall, writes December 3:—Market quiet on the dullness of tin, with but few transactions. Statistics for the past month are favourable, showing a reduction on stocks of 53 tons. Quotations:—Basset United (Limited), 17s. 9d. to 18s. 3d.; ditto (5s. paid), 4s. 9d. to 5s.; Blue Hill, 2s. 6d. to 3s.; Carn Brea United (Limited), 2s. to 2s. 6d.; Devon Consols, 17s. 6d. to 18s. 6d.; Dolcoath (Limited), 16s. 6d. to 17s. 6d.; East Pool, 19s. to 20s.; Killisfret (11s. paid), 4s. 6d. to 5s.; Levant, 2s. to 3s.; Polberro, 5s. 6d. to 6s.; West Kitty, 2s. to 2s. 6d.; Wheal Grenville, 4s. to 5s.; Wheal Kitty, 4s. 6d. to 5s.; Wheal Metal, 2s. to 2s. 6d.

Messrs. ABBOTT and WICKETT, Stock and Share Brokers and Mining Share Dealers, Redruth, write under date of December 3:—A dull market all round this week, with little or nothing doing. The quotations in most instances are nominal. Dolcoath 17s., Basset 18s., Grenville, 5s. Quotations herewith:—Blue Hills, 1s. to 2s.; Basset (Limited) (fully paid), 17s. 6d. to 18s. 6d.; ditto (5s. paid), 4s. to 5s.; Dolcoath (fully paid), 16s. 6d. to 17s. 6d.; ditto (10s. paid), 6s. to 7s.; East Pool, 19s. to 20s.; Polberro, 5s. to 6s.; West Kitty, 2s. to 3s.; Wheal Grenville, 4s. to 5s.; Wheal Kitty, 4s. to 5s.

MANCHESTER.

Messrs. JOSEPH R. and W. P. BAINES, Stock and Share Brokers, Queen's Chambers, 7, Market-street, write December 3 (noon):—The prevailing feature during the past week throughout the railway markets has been dullness, which, however, has been relieved (perhaps more in tone and turn of prices) during the past day or two than in actual new business. As it is, what with the declines consequent on the dullness and the better tone later, the changes on the week are contradictory. Home rails are for the most part lower on balance, but if the record had been made two days ago the report would have been, perhaps, all lower. The splendid traffic, however, giving hopes of enhanced dividends in many cases, have strengthened them distinctly, and, short of outside troubles, this market should be a strong one for some time, especially if money goes in the direction it seems to be taking. The American market is very irregular, the most active stocks (recently), viz., Milks and Lons, showing contradictory moves. True, the alterations are very small for the week, Milks being $\frac{1}{2}$ lower, and Lons $\frac{1}{2}$ to $\frac{3}{4}$ up. For the rest, fluctuations are in small fractions, with advances ahead of declines. In Canadian, Pacifics are only $\frac{1}{2}$ up, but Grand Trunk issues, under the influence of a very good traffic, quote distinctly better for the preference and guaranteed issues, ordinary only participating very slightly, but still on the right side. Mexican rails, no change of importance. Consols, with the dividend off again, mark a smart rise; a rise which would not long ago have pointed to moves elsewhere, but for the present there have not the significance they used to have. Colonial stocks, &c., where changed, are higher, ranging from $\frac{1}{2}$ to 1. Home corporation stocks, &c., are without quotable alterations. Foreigners quote higher as a rule; Argentines to the front, especially their Five per Cent. issues. Brazilian and Uruguayans distinctly down, the latter especially, though they have gained ground early to-day on the news from the country. In miscellaneous markets, ranging down from the departments spoken of, there is nothing to name further than to refer to the details given below, if we except a sharp rise in Allsops (to be seen hereunder). This rise is supposed to be owing to the probability of a movement on the part of a financier who is the "crane of the hour." Anyhow the rise is there for the present, and we must not be taken to express an opinion "pro" or "con" hereon. A recent flotation from the same quarter, however, which within the last day or two was supposed to be at a premium, is now quoted at a discount. Linotype Company, Limited (just re-constructing), have produced a large number of transactions during the week, both in the (new style) Preferred, Ordinary, and Deferred Ordinary, and seem likely to furnish plenty of room for more in either issue. Machinery Trust shares are apparently being well looked after and absorbed by investors.

ENGLISH RAILS.—Higher: Great Easterns, $\frac{1}{2}$; York Deferred, $\frac{1}{2}$; Lancashire and Yorkshire, $\frac{1}{2}$; Chatham, 5-16; Dover A, $\frac{1}{2}$.—Lower: Coras, $\frac{1}{2}$; Great Westerns, $\frac{1}{2}$; Berthas, $\frac{1}{2}$; London and North Western, $\frac{1}{2}$; Saras, $\frac{1}{2}$ to $\frac{1}{2}$; Districts, $\frac{1}{2}$; Midlands, $\frac{1}{2}$; North British, $\frac{1}{2}$; Berwicks, $\frac{1}{2}$.

CANADIANS AND AMERICANS.—Higher: Atchison, $\frac{1}{2}$ to $\frac{1}{2}$; ditto Preference, $\frac{1}{2}$; Canadian Pacifics, $\frac{1}{2}$; Grand Trunk, 1-16; ditto Guaranteed, 1 to $\frac{1}{2}$; ditto First Preference, 1 to $\frac{1}{2}$; ditto Second Preference, $\frac{1}{2}$; ditto Third Preference, $\frac{1}{2}$; Denvers, $\frac{1}{2}$ to $\frac{1}{2}$; ditto Preference, $\frac{1}{2}$; Louisville, $\frac{1}{2}$ to $\frac{1}{2}$; New York Central, $\frac{1}{2}$; Onarics, $\frac{1}{2}$ to $\frac{1}{2}$; Norfolk Preference, $\frac{1}{2}$.—Lower: Central Pacifics, $\frac{1}{2}$; Milwaukee, $\frac{1}{2}$; Erie, $\frac{1}{2}$; Readings, $\frac{1}{2}$; Union Pacifics, $\frac{1}{2}$.

CONSOLS.—Higher: 1 16 (allowing for dividend).

COLONIAL STOCKS, &c.—Higher: Canada Registered, 1; New Zealand Inscribed, $\frac{1}{2}$; Victoria Inscribed, $\frac{1}{2}$.

CORPORATION STOCKS AND DEBENTURES.—Unchanged.

FOREIGNERS.—Higher: Argentine Six per Cent., 1; ditto Five per Cent., $\frac{1}{2}$; Brazilian Four per Cent., $\frac{1}{2}$; Egyptian Unified, $\frac{1}{2}$; Italian Rentes, $\frac{1}{2}$; Mexican Six per Cent., 1; Spanish Four per Cent., $\frac{1}{2}$.—Lower: Brazilian Four and a-half per Cent., 1; Portuguese Three per Cent., $\frac{1}{2}$; Uruguay Three and a-half per Cent., 3.

BANKS.—Higher: Imperial of Persia, $\frac{1}{2}$; London and Midland, $\frac{1}{2}$; Manchester and County, $\frac{1}{2}$ to $\frac{1}{2}$; National Provincial, $\frac{1}{2}$.—Lower: Bank of Liverpool, $\frac{1}{2}$; Mercantile of Lancashire, 1 16.

INSURANCE.—Higher: Lancashire and Yorkshire Accident, $\frac{1}{2}$; P. latine, 1 16; Royal, $\frac{1}{2}$; Union Marine, $\frac{1}{2}$.—Lower: British and Foreign Marine, $\frac{1}{2}$; Guardian, $\frac{1}{2}$; London and Lancashire, 1-16; Maritime, 3-16; Sea, 1-16.

COAL, IRON, &c.—Higher: John Browns, $\frac{1}{2}$ to $\frac{1}{2}$; Ebbw Vale, 3 16; Parkgate, $\frac{1}{2}$; Shepsbridge A, $\frac{1}{2}$.—Lower: Nantyglo Preference, $\frac{1}{2}$; Tredgar A, $\frac{1}{2}$.

TELEGRAPHS AND TELEPHONES.—Lower: Eastern Extensions, $\frac{1}{2}$; Western and Brazil Deferred, $\frac{1}{2}$; West India and Panama, $\frac{1}{2}$.

BREWERS.—Higher: Allsops, 12 to 13; Cheaters, $\frac{1}{2}$; Parkers, $\frac{1}{2}$ to $\frac{1}{2}$; Showells, $\frac{1}{2}$; Threlfalls, $\frac{1}{2}$ to $\frac{1}{2}$.—Lower: Bents, $\frac{1}{2}$ to $\frac{1}{2}$; Bodingtons, $\frac{1}{2}$; Springwell, $\frac{1}{2}$.

MISCELLANEOUS.—Higher: Sir E. Armitage, $\frac{1}{2}$; Howard and

Bullough, $\frac{1}{2}$; Hudson's Bay, $\frac{1}{2}$; United Alkali, $\frac{1}{2}$; Suez Canal, 1.—Lower: Brunner Mond, $\frac{1}{2}$; Coats, $\frac{1}{2}$; Onard Steam, $\frac{1}{2}$; Eastmans, 1-16; Fowler Brothers, $\frac{1}{2}$; Hatheringtons, $\frac{1}{2}$; Manchester Palaces, 6d.; Riston P. octer, $\frac{1}{2}$; Gas Light A, $\frac{1}{2}$; Imperial Continental Gas, $\frac{1}{2}$; Manchester Carriage A, 1.

LATER (4 P.M.).—In home rails better prices have been maintained, saving Scotch stocks, which are fractionally lower. In Grand Trunk issues prices are just steady, notwithstanding a decreased traffic reported. Americans, after being a bit off at the opening, steadied up, and remained so down to the finish here. Mexicans unaltered, and had anything doing therein.

SCOTCH MINING AND INDUSTRIAL COMPANIES SHARE MARKETS.

STIRLING.—Mr. J. GRANT MACLEAN, Stockbroker and Ironbroker (December 3), writes:—During the past week there has not been much business doing, and unless something special occurs to affect prices there does not appear to be much prospect of increased business with the holidays approaching. As forced selling seems to be at an end, the money market easier, and foreign politics quieter, the tendency of prices should not be unfavourable.

In shares of coal, iron, and steel companies prices are generally easier. Marbella are at 28s., Steel Company of Scotland 6s., and Stewart and Clydesdale 13s.

In shares of copper concerns there is not much alteration to notice. Arizona are at 54s. 6d., Tinto and Tharsis are both a shade lower.

In shares of gold and silver mines a fair amount of business has been done, but the recovery which set in last week has not been maintained. President Kruger has made a pacific speech on the position of affairs, but this has been offset by rumours of shutting down of mines. Chartered declined from 46s. 3d. to 41s. 9d., Gold Fields from 8s. to 7 11-16, East Rand from 80s. to 70s. 6d., and Randfontein from 47s. 3d. to 40s. 6d. Oregon are exceptionally higher on reports that they have cut a side lode. Anglo-African Gold Properties are at 12s. 6d.; Afrikaner, 22s. 6d.; African Recovery 11s. 6d.; Associated Southern, 23s. 9d.; Abbott's, 3s. 6d.; Bantjes, 40s.; Broken Hill, 51s.; Brilliant and St. George, 35s.; Barratts, 12s. 6d.; Beluwayo Syndicate, 20s.; Croydon Consols, 10s. 3d.; Cassel, 9s. 6d.; Cripple Creek Pioneer, 30s.; Central De Kaap, 1s.; Doornkop, 3s. 3d.; Emma, 1s.; Florence, 16s.; Golden Horseshoe, 37s. 6d.; Gwelo, 9s.; Gold Estates of Australia, 32s. 6d.; Gleeson's Success, 12s. 6d.; Gold Fields of Mozambique, 18s. 6d.; Golden Arrow, 12s. 6d.; Ginsberg, 31s. 3d.; Golden Gate (Charters Towers), 1s. 3d.; Hannan's Star, 21s. 3d.; Hainault, 15s.; Hauraki Associated, 3s.; Hit or Miss, 15s. 6d.; Joker, 8s. 9d.; Komata Queen, 3s. 6d.; Kathleen Crown, 2s. 3d.; Kaffir, 2s. 3d.; Kempinkote, 1s. 3d.; Kimberley Roadpoort, 42s. 6d.; London and Paris Finance, 20s.; Mainland Consols, 38s. 9d.; Merchison Gold Fields, 3s. 9d.; Mount Margaret, 27s. 6d.; North Croydon, 3s. 9d.; Porges, 21s. 3d.; Pardy's Mozambique, 17s. 6d.; Princess Royal, 3s.; Paarl Central, 20s.; Rhodesia, (Limited), 19s.; Sheba Queen, 4s. 6d.; Sunburst, 2s. 6d.; Triumph Hauraki, 2s. 3d.; United Rhodesia, 9s.; United African Land, 5s.; Violet, 16s. 6d.; West Australian District Trading, 3s. 6d.; White Feather Main Reef, 6s. 3d.; and Zambes's Exploring, 36s. 6d.

In shares of miscellaneous companies prices are steady. In oil companies, Broxburn are at 9s., Pompherston 6s., and Young's 28s. Nobel's Dynamite are at 18s., and Roburite Explosives 60s.

EDINBURGH.

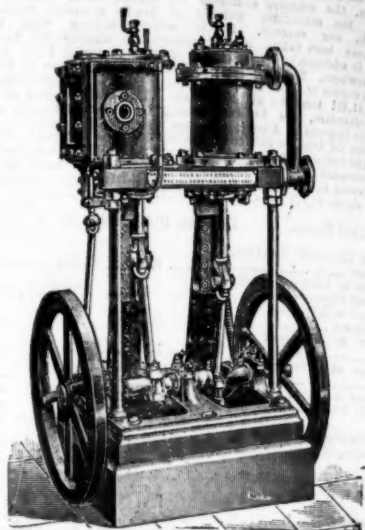
Messrs. THOMAS MILLER and SONS, Stock and Share Brokers, 69, Hanover-street, Edinburgh, report as follows under date of December 3:—Railways have fully maintained their prices since the date of last week's report. In the case of Great North of Scotland there has been a rise from 116s. to 120. Highland has gone down from 7s. to 7s. Bank stocks have been favourably affected by the recent announcement of the improved dividend on National, following on the advance in the dividend on Commercial. Bank of Scotland has risen from 347 to 349, British Linen from 432 to 437, Clydesdale from 21 to 21s., National from 377 to 392, Union from 22s. to 22s. Standard Life Assurance shares have improved from 54 to 54s., Life Association of Scotland from 39s. to 40, Globes from 52s. to 53. Commercial Union have declined from 37s. to 37s. Mercantiles from 38 1-16 to 38. There has been little alteration in coal and iron shares. R. and J. Davis have risen from 10s. to 10s. Stewart and Clydesdale from 13 13-16 to 13s. In copper shares, Arizona have changed from 2s. to 3, Rio Tinto from 25 to 24s. Young's Paraffin have declined from 28s. 6d. to 28s. Edinburgh United Breweries have risen from 14s. to 14s. J. and P. Coats from 60s. to 61s.

THE IRON AND STEEL MARKET.

Messrs. JOHN STEVENSON and COWPER's weekly report, dated Middlesbrough and Newcastle-on-Tyne, December 3, states:—The warrant market is unsteady, pendulating between "flat" and "firm." To-day it left off "steady, fair," at prices noted below, which are slightly under those of last week. The higher readings are in sympathy with the state of trade, which is very good, and the lower are attributed to bear-selling and the unsettled state of labour, which in such circumstances is always ready to be aggressive in some of the principal centres of consumption. Middle-bro' prices are well maintained, No. 3 having been largely sold at 41s. Hematite is firm at 49s. 6d. Several furnaces have stopped or changed to Cleveland because of the difficulty of getting deliveries of Spanish ore, and the price asked is out of all proportion to buyers' offers for pig. Stocks in public stores are declining both here and on the West Coast. Scotch stocks are unaltered. The shipments from this district are uncommonly heavy, the total for November being 124,400 tons—9,000 tons in excess of October and nearly 38,000 tons over the average of the past three years. Manufactured iron and steel, both light and heavy sections, are in full demand. Common iron bars are £5 5s., steel plates £5 10s., and angles £5 2s. 6d. Engineers and foundries are also busy, and the heavy goods trades of Sheffield, which draw largely of hematite pigs from this market, are full for months ahead. Coke is firm, and coal for manufacturing purposes is being sold for next year at increased rates. This afternoon warrant prices are:—Scotch, 48s. 8d.; Cleveland, 40s. 8d.; Cumberland hematite, 60s. 10d.; and Middlesbrough hematite, 49s. 1d. cash sellers.

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*Arundel Castle (via Madeira) ...	December 18	December 18
*Hawarden Castle (via Madeira) ...	December 25	December 25
*Garth Castle (via Madeira) ...	January 1	January 1
*Tantallon Castle (via Madeira) ...	January 8	January 8
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*M. X. can ...	—	—	December 19	December 19
*Guelph (twice) ...	—	December 13	December 19	December 19
*Norman (twice) ...	—	—	—	January 2

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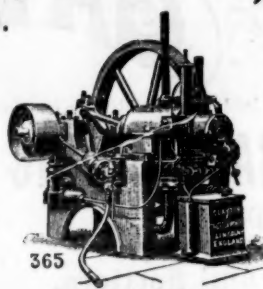
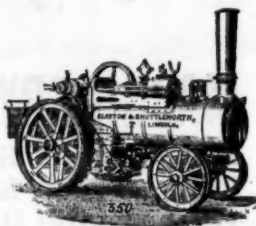
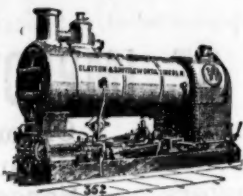
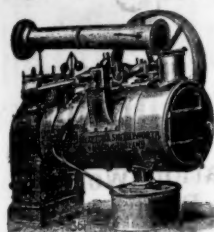
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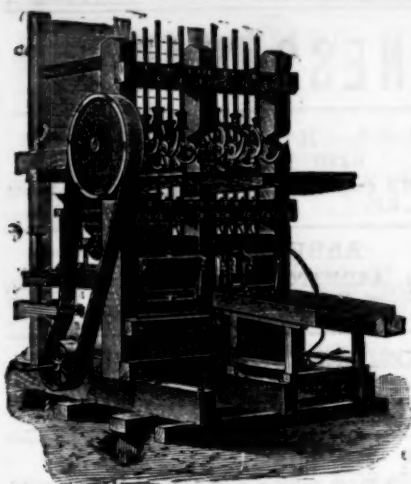
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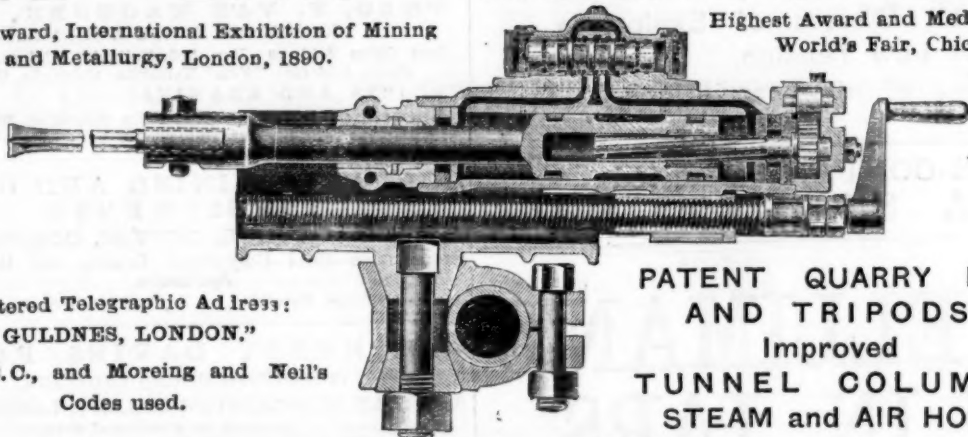
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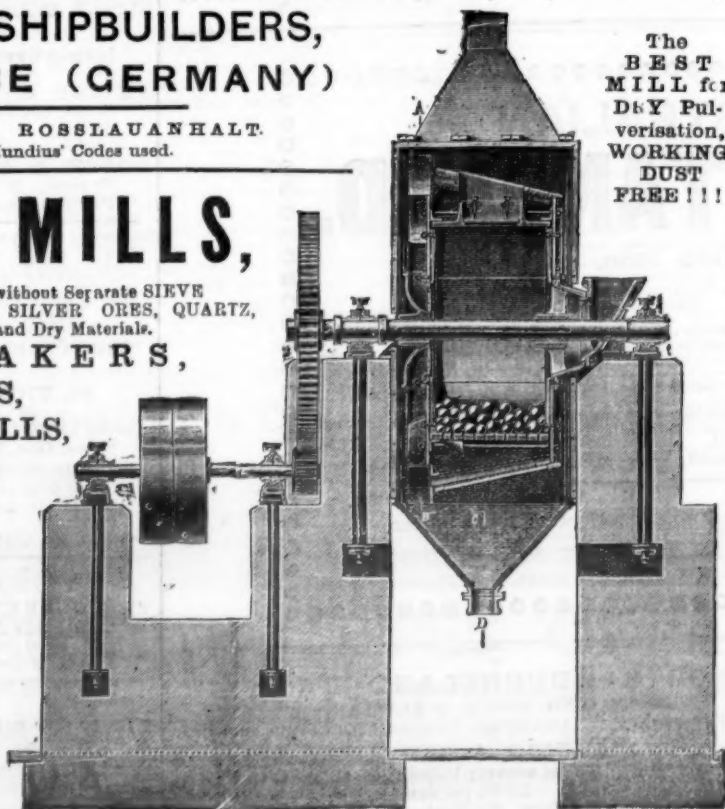
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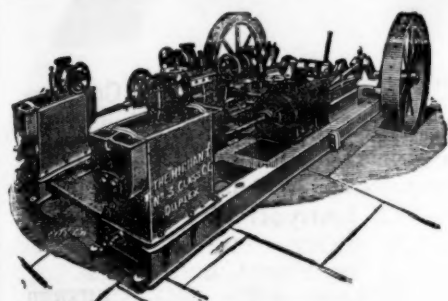
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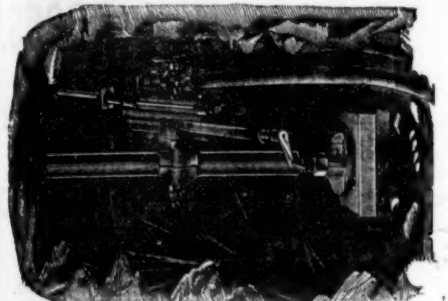
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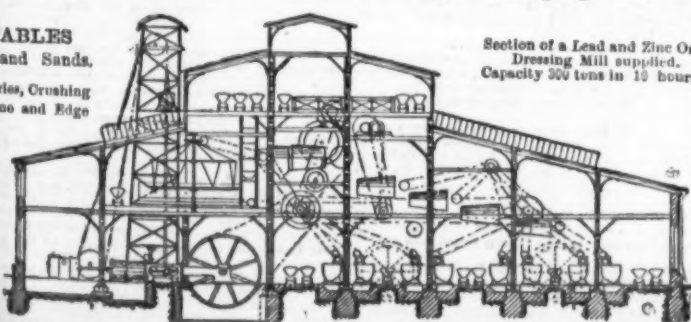
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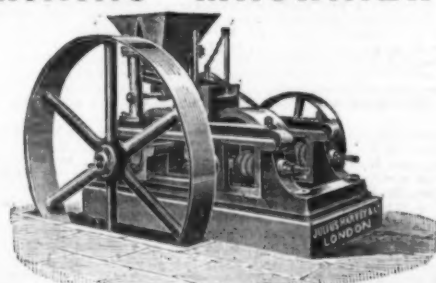
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